89-1695

No. _____

Supreme Court, U.S.
FILED
APR 30 1990
JOSEPH F. SPANIOL, JR.
CLERK

IN THE

Supreme Court of the United States

OCTOBER TERM, 1989

LAW ENGINEERING, INC.,
Petitioner,

v.

GEORGETOWN STEEL CORPORATION and
UNION CARBIDE CORPORATION,
Respondents.

PETITION FOR WRIT OF CERTIORARI TO THE UNITED STATES COURT OF APPEALS FOR THE FOURTH CIRCUIT

PETITION FOR WRIT OF CERTIORARI

GEORGE D. WENICK
(Counsel of Record)

ROBERT O. FLEMING, JR.
SMITH & FLEMING
2300 Peachtree Center Tower
230 Peachtree Street, N.W.
Atlanta, Georgia 30303-1505
(404) 522-2300

Counsel for Petitioner

April 30, 1990

Tower Printing Company, 2 Peachtree St., Atlanta, Georgia 30383, (404) 659-4080

QUESTION PRESENTED

Whether the United States Court of Appeals for the Fourth Circuit, in reversing four major factual findings in a 48-page trial court decision rendered after a six day non-jury trial, misinterpreted or misapplied the "clearly erroneous" standard of F.R.Civ.P. 52(a), engaged in a *de novo* weighing of the evidence, and substituted its own findings of fact for those of the District Court in contravention of the standard announced by this Court in *Anderson v. City of Bessemer City*, 470 U.S. 564, 573-75 (1985).

PARTIES TO THE PROCEEDINGS BELOW

1. *Law Engineering, Inc.*, Petitioner.*

Law Engineering, Inc. was formerly known as Law Engineering Testing Company, and was so identified in the proceedings in the District Court and the Court of Appeals.

2. *Georgetown Steel Corporation*, Respondent.

3. *Union Carbide Corporation*, Respondent.

4. *Pittsburgh Testing Laboratory, Inc.*

Petitioner believes, and hereby notifies the Clerk pursuant to Supreme Court Rule 12.4, that Pittsburgh Testing Laboratory, Inc. has no interest in the outcome of this petition.

---

* There are no parent or subsidiary corporations of Law Engineering, Inc. required to be listed under Supreme Court Rule 29.1.

TABLE OF CONTENTS

Page

QUESTION PRESENTED i

PARTIES TO THE PROCEEDINGS BELOW ii

TABLE OF AUTHORITIES v

CITATION TO REPORTED OPINIONS IN THE CASE vii

JURISDICTIONAL STATEMENT vii

STATUTORY PROVISIONS INVOLVED IN THE CASE viii

STATEMENT OF THE CASE 1

ARGUMENT 3

A. Reasons Why the Writ Should Be Granted 3

B. Absence of Negligence or Breach of Warranty 4

C. GSC's Contributory Negligence 8

D. GSC's Status As Agent of UCC 10

E. Conclusion 14

APPENDIX

A. Opinion of the Court of Appeals for the Fourth Circuit 1a

B. Order (with Findings of Fact and Conclusions of Law) of the District Court 30a

C. Judgment of the District Court filed August 15, 1988 ..... 76a

D. Order of the District Court (granting motion to amend the judgment) filed November 28, 1988 ..... 78a

E. Amended Judgment of the District Court filed November 29, 1988 ..... 80a

F. Order of the Court of Appeals for the Fourth Circuit, on Motion for Rehearing, filed January 29, 1990 ..... 82a

TABLE OF AUTHORITIES

Cases **Pages**

Anderson v. City of Bessemer City,
470 U.S. 564 (1985) ..... i, 2, 3, 4, 5, 8, 14, 15

Anderson v. City of Bessemer City,
717 F.2d 149 (4th Cir. 1983) 2

Banker's Trust of South Carolina v. Bruce,
323 S.E.2d 523 (S.C.App. 1984) 11

Bear Brand Hosiery Co. v. Tights, Inc.,
605 F.2d 723 (4th Cir. 1979) 5

Bonds v. Mortensen and Lange,
717 F.2d 123 (4th Cir. 1983) 5

Cohen v. Boxberger,
544 F.2d 701 (4th Cir. 1976). 10

Courtney v. Remler,
556 F. Supp. 1225 (D.S.C. 1983),
aff'd, 745 F.2d 50 (4th Cir. 1984). 11

Crawford v. Powers,
419 F. Supp. 723 (D.S.C. 1974) 6

Fernander v. Thigpen,
293 S.E.2d 424 (S.C. 1982) 11

Gathers v. Harris Teeter Supermarket, Inc.,
317 S.E.2d 748 (S.C.App. 1984) 10

Gilliland v. Elmwood Properties,
375 S.E.2d 342 (S.C.App. 1988) 6, 7

Pullman-Standard v. Swint,
456 U.S. 273 (1982) 5, 11

Statutes and Rules

F.R.Civ.P. 52(a) ..... i, viii, 2, 3, 5, 6, 11, 15

28 U.S.C. § 1332 3

CITATION TO REPORTED OPINIONS IN THE CASE

The decision of the United States Court of Appeals for the Fourth Circuit is reported, without published opinion, at 892 F.2d 1041 (1990). The decision of the District Court is not reported.

JURISDICTIONAL STATEMENT

The decision of the United States Court of Appeals for the Fourth Circuit sought to be reviewed was entered December 15, 1989. An order denying a petition for rehearing was entered by the Court of Appeals on January 29, 1990. This Court has jurisdiction to review the decision of the Court of Appeals by writ of certiorari, 28 U.S.C. § 1254(1).

STATUTORY PROVISIONS INVOLVED IN THE CASE

F.R.Civ.P. 52:

> **(a) Effect.** In all actions tried upon the facts without a jury or with an advisory jury, the court shall find the facts specially and state separately its conclusions of law thereon, and judgment shall be entered pursuant to Rule 58; and in granting or refusing interlocutory injunctions the court shall similarly set forth the findings of fact and conclusions of law which constitute the grounds of its action. Requests for findings are not necessary for purposes of review. Findings of fact, whether based on oral or documentary evidence, shall not be set aside unless clearly erroneous, and due regard shall be given to the opportunity of the trial court to judge of the credibility of the witnesses. The findings of a master, to the extent that the court adopts them, shall be considered as the findings of the court. It will be sufficient if the findings of fact and conclusions of law are stated orally and recorded in open court following the close of the evidence or appear in an opinion or memorandum of decision filed by the court. Findings of fact and conclusions of law are unnecessary on decisions of motions under Rules 12 or 56 or any other motion except as provided in Rule 41(b).

No. _____

IN THE

Supreme Court of the United States

OCTOBER TERM, 1989

LAW ENGINEERING, INC.,

Petitioner,

v.

GEORGETOWN STEEL CORPORATION and
UNION CARBIDE CORPORATION,

Respondents.

PETITION FOR WRIT OF CERTIORARI TO THE UNITED STATES COURT OF APPEALS FOR THE FOURTH CIRCUIT

PETITION FOR WRIT OF CERTIORARI

STATEMENT OF THE CASE

This case involves the reversal, on "clearly erroneous" grounds, by a sharply divided panel (opinion by Judge HALL; concurrence in the result only by Judge WIDENER; dissent by District Judge Joseph F. ANDERSON, Jr.) of four major factual findings in a 48-page trial court opinion rendered after a six day non-jury trial. District Judge Falcon B. HAWKINS, who heard all the evidence and evaluated the credibility of witnesses, determined that Petitioner Law Engineering, Inc. ("Law") was

not negligent and breached no warranty; that Respondent Georgetown Steel Corporation ("GSC") was, in any event, contributorily negligent; and that GSC acted as agent for Respondent Union Carbide Corporation ("UCC"), so that GSC's negligence is imputed to UCC. Judge ANDERSON would have affirmed those findings of fact because they are "plausible in light of the record viewed in its entirety." *Anderson v. City of Bessemer City*, 470 U.S. 564, 574 (1985).[1]

In reaching a contrary result, the Court of Appeals violated the *Anderson* standard by improperly substituting its own findings of fact for those of the District Court, and misinterpreted or misapplied the "clearly erroneous" standard of F.R.Civ.P. 52(a). The Court of Appeals' opinion also contains an internal inconsistency, on the issue of contributory negligence, which cannot be harmonized. The reversal imposes liability on Law and remands the case for a determination of damages, with more than $5 million at issue.

The underlying dispute arises out of GSC's use of steel slag, a by-product of the steelmaking process, as fill under an oxygen separation plant (and several other structures) owned by UCC and located on GSC's property in Georgetown, South Carolina. GSC hired Pittsburgh Testing Laboratory, Inc. ("PTL"), in 1979, to perform certain tests on its slag. GSC hired Law, in 1980, to perform test borings and write a soils report for the oxygen plant

---

[1] Two members of the panel in this case, Judges HALL and WIDENER, also participated in the Fourth Circuit's decision in *Anderson v. City of Bessemer City*, reversed by this Court. *See*, 717 F.2d 149 (4th Cir. 1983).

site, and to perform quality control testing during construction. After construction was complete, the slag expanded and destroyed the oxygen separation plant, and GSC filed suit against PTL and Law alleging negligence and breach of warranty. GSC also filed suit against UCC for a declaratory judgment as to their respective rights and obligations. UCC cross-claimed against Law and PTL. Jurisdiction in the District Court was based on diversity of citizenship, 28 U.S.C. § 1332.

ARGUMENT

A. *Reasons Why the Writ Should Be Granted.*

This case deals solely with a clear case of a sharply divided panel of the Court of Appeals conducting a *de novo* weighing of the evidence, and impermissibly substituting its findings of fact for the fully supported factual determinations of the District Court. The Court of Appeals has thus decided a federal question, application of the "clearly erroneous" standard of F.R.Civ.P. 52(a), in a way that directly conflicts with the decision of this Court in *Anderson v. City of Bessemer City*, 470 U.S. 564, 573-75 (1985).

This case, we must in candor concede, presents no other "special and important reason" (Supreme Court Rule 10.1) for granting the petition. That cannot mean, however, that a petition for writ of certiorari must automatically be denied, for then there would almost never be an occasion to assure compliance by the Courts of Appeal with the "clearly erroneous" standard of Rule 52(a). That argument surely proves too much. Maintaining the integrity of the District Court's role in factfinding has been

of sufficient importance to engage this Court's attention on more than one occasion in the past, including *Anderson v. City of Bessemer City*. The standard clearly articulated in that decision has been ignored. Exercise of this Court's power of supervision is not only appropriate, it is essential.

B. *Absence of Negligence or Breach of Warranty.*

On the basis of the "credible testimony" before it, the District Court concluded that the contract between GSC and Law did not impose on Law the obligation to determine if GSC's slag was expansive — only whether the slag could be sufficiently compacted. The Court of Appeals acknowledged the absence of any express contractual basis for imposing such a duty on Law. Nonetheless, the Court of Appeals ignored the District Court's finding and erroneously held that Law "specifically approved the use of GSC's slag to support the foundations."[2] The parties never

---

[2] The Court of Appeals characterized one of three alternative recommendations in Law's March 24, 1990 report — dynamic compaction of the existing slag and sand fill — as "specific approval" of the slag for use as fill. Even if that characterization were accurate, it would not support a finding of liability: That recommendation was withdrawn when Law clarified its report on August 29, 1980, prior to the start of construction. The Court of Appeals also characterized a statement in Law's September 9, 1980 letter — "[w]ith verification of . . . gradation, we anticipate the processed material will be suitable for use in the backfill required within the Oxygen Plant" — as approval of the use of slag as fill material. Without any explanation, the Court of Appeals simply rejected the District Court's finding that this statement was made *only* with respect to whether the slag could be sufficiently compacted, *not* whether it might be expansive. Since the District Court's finding was based on "essentially undisputed evidence," the Court of Appeals' opposite conclusion after reviewing the same record

intended that Law determine or pass judgment on the potential expansiveness of GSC's slag, and the reason is clear: The slag had already been tested by PTL, and GSC had been assured by PTL that the slag was not expansive.

The intent of contracting parties is a question of fact. *Bear Brand Hosiery Co. v. Tights, Inc.*, 605 F.2d 723, 726 (4th Cir. 1979). Determination of intent involves "peculiarly factual issues for the trier of fact," subject to the "clearly erroneous" standard. *Pullman-Standard v. Swint*, 456 U.S. 273 (1982). The District Court's determination of the parties' intent is entitled to special deference because it is based on the credibility of witnesses. F.R.Civ.P. 52(a); *Bonds v. Mortensen and Lange*, 717 F.2d 123, 125 (4th Cir. 1983).

When the Court of Appeals ignored the substantial evidence in the record supporting the District Court's findings that "[n]othing in any of the discussions between GSC employees and Law employees and nothing in any of the agreements between GSC and Law indicates that GSC expected Law to determine the suitability of the slag backfill in any other respect besides compaction," and that "the scope of Law's duty to GSC included a determination that the slag backfill could be and was appropriately compacted to support a load of three thousand (3000) pounds per square foot, but did not include a determination that the slag was not expansive," it impermissibly substituted its judgment for that of the District Court, in contraven-

---

is an impermissible *de novo* weighing of the evidence. *Anderson v. City of Bessemer City*, 470 U.S. at 576.

tion of Rule 52(a). The Court of Appeals cannot have determined that those findings were not material to the negligence issue, for that would be tantamount to announcing a rule of law which would impose on Law an affirmative duty to act independent of the terms of its contract with GSC, in contravention of established South Carolina law.

In *Crawford v. Powers*, 419 F.Supp. 723, 729 (D.S.C. 1974) (applying South Carolina law), the Court stated:

> Where the only relation between the parties is contractual, liability must arise out of some positive duty which the law imposes because of the relationship or because of the negligent manner in which some act provided for in the contract is performed.

No such duty or relationship, independent of their contracts, exists between Law and GSC. That conclusion is compelled by *Gilliland v. Elmwood Properties*, 375 S.E.2d 342 (S.C.App. 1988), which involved a claim that an architect was negligent in failing to design a project to qualify for tax exempt bond financing, failing to observe the project's budgetary constraints, and failing to obtain necessary governmental approvals. Since the contract was silent regarding such duties, the Court concluded:

> Ordinarily, there is no duty except as the contract creates and the remedy is for breach of contract, however, when the breach of duty arises out of liability independently of the personal obligation undertaken by contract, it is a tort. For a tort to arise out of a contract, there must also exist a relationship, irrespective of the contract, that gives rise to a duty. Mere breach of a contract is

> not actionable as a tort. In the instant case, *there exists no duty or relationship independent of the contract*. 375 S.E.2d at 345 (emphasis added).

South Carolina law does not impose an affirmative duty to act — such as, in this case, the duty to test slag to determine whether or not it has expansive properties — in the absence of agreement. The District Court's factual findings were thus material to the negligence issue, were supported by substantial evidence in the record, and should have been affirmed.

The District Court also concluded that the only warranty existing between GSC and Law was that defined by the "Warranty and Limitation of Liability" provision in their contracts:

> The only warranty or guarantee made by Law Engineering Testing Company in connection with the services performed hereunder, is that we will use that degree of care and skill ordinarily exercised under similar conditions by reputable members of our profession practicing in the same or similar locality. No other warranty, express or implied, is made . . . .

Thus the only warranty given was that Law would perform its tasks — that is, what it had contracted to do — with that degree of skill and care exercised by engineers practicing in the locality.[3] The District Court found "that the testimony was clear that an engineer in this or any lo-

---

[3] Law's proposals and reports were issued by its Columbia and Charleston, South Carolina offices. The Court of Appeals' statement that the "report to GSC was issued out of Law's Birmingham, Alabama office" is incorrect.

cality performs the task required by the agreement pursuant to which he acts." That conclusion finds ample support in the testimony of Law's expert witness. Based on the language of the agreements and the fact that GSC's representative assured Law that the slag had been successfully used as fill on prior projects, the District Court concluded that the contracts between Law and GSC did not impose on Law the duty to determine whether slag was expansive, and the warranty had not been breached.

The Court of Appeals, having erroneously concluded that Law's duties included a determination of the expansiveness of the slag, also reversed the District Court on this point. In so doing, the Court of Appeals again impermissibly substituted its judgment for that of the District Court, since the findings of the District Court were *at least* "plausible in light of the record viewed in its entirety." That is true even though the District Court's finding was based in part on "physical or documentary evidence," rather than on credibility determinations alone. *Anderson v. City of Bessemer City*, 470 U.S. at 574.

C. *GSC's Contributory Negligence.*

In 1979, the year before Law's involvement with GSC began, a problem developed with a railroad track scale (an in-ground concrete structure containing a scale for weighing railroad cars), which GSC had backfilled with slag. The walls deflected inward and bound the scale mechanism. The District Court concluded that GSC was negligent in failing to recognize that the problem with the track scale was caused by expanding slag; in not having the slag tested further when those problems developed; in not telling Law of the problems at the track scale; and in

telling Law that it had used slag successfully, when, in fact, there had been a problem. The District Court concluded that GSC's contributory negligence was a proximate cause of the damage to the oxygen plant, barring any recovery by GSC.

The Court of Appeals agreed that GSC was negligent, but nonetheless concluded that GSC's conduct did not bar recovery because it was not a proximate cause of the damage to the oxygen plant. It was not only factually unwarranted but logically untenable for the Court of Appeals to reverse the District Court's finding of contributory negligence as "clearly erroneous." It is untenable as a matter of logic to reverse the District Court's finding of proximate cause, with respect to Law, while at the same time affirming the District Court's finding that GSC's negligent conduct — *precisely the same conduct* — was a proximate cause of the damage to the oxygen plant so as to bar recovery against the other defendant in this case, PTL. With respect to GSC's claim against PTL, the Court of Appeals held:

> Under the circumstances, Rishel [GSC's plant engineer] should have been on notice that the slag may have been swelling. There was testimony that a reasonably prudent civil engineer with Rishel's background and knowledge should have suspected slag swell as the problem with the track scale, and should have, at that point [i.e., in 1979, prior to Law's involvement with GSC], had the slag tested again to determine if it was causing the problem at the track scale. On the basis of this evidence and that which indicated that GSC itself had knowledge that its slag had expansive qualities, we cannot

say that the district court's finding that GSC was contributorily negligent was clearly erroneous.

There is no logical explanation as to how GSC's negligent conduct can be a proximate cause of the damage to the oxygen plant with respect to PTL, while the very same negligent conduct is not a proximate cause of the very same damage with respect to Law.

GSC's failure to recognize the expansive nature of its slag was either a "cause without which injury would not have occurred," or it was not. The same result must obtain as to both defendants. The inconsistency cannot be harmonized; it certainly cannot sustain the Court of Appeals' conclusion that in only one of two indistinguishable instances the District Court's finding was "clearly erroneous."

Proximate causation is a question of fact. *Cohen v. Boxberger*, 544 F.2d 701, 704 (4th Cir. 1976). Significantly, the Court of Appeals did *not* say that the District Court's finding of proximate causation lacks support in the record; instead, the Court of Appeals simply reviewed the same evidentiary record and drew a different conclusion, in violation of the *Anderson v. City of Bessemer City* standard.

D. *GSC's Status As Agent of UCC.*

Under South Carolina law, the existence of an agency relationship is a question of fact. *Gathers v. Harris Teeter Supermarket, Inc.*, 317 S.E.2d 748, 752 (S.C.App. 1984). The District Court made a factual finding that GSC was acting as UCC's agent when it contracted with Law, so that the duty owed by Law to UCC is identical to the duty owed to

GSC. Since the District Court also concluded that the contracts did not include the duty to determine whether GSC's slag was expansive, it denied UCC's negligence and breach of warranty claims against Law. In addition, GSC's contributory negligence was imputed to UCC. The Court of Appeals reversed the finding of agency as "clearly erroneous," again ignoring substantial evidence in the record supporting the District Court's finding.

Before summarizing that evidence, the legal framework within which it fits must be defined. Under South Carolina law, the relationship of principal and agent does not require an express appointment and acceptance, but may be and frequently is inferred from the words and conduct of the parties and the circumstances of the case. *Banker's Trust of South Carolina v. Bruce*, 323 S.E.2d 523 (S.C.App. 1984). The agency relationship depends on intent, *Courtney v. Remler*, 556 F.Supp. 1225 (D.S.C. 1983), *aff'd*, 745 F.2d 50 (4th Cir. 1984).[4] The agency relationship is distinguished from that of independent contractor by the principal's power to control the means and methods employed by the agent, not just the result. *Fernander v. Thigpen*, 293 S.E.2d 424 (S.C. 1982).

In addition to the facts cited by the District Court in its opinion, the following evidence in the record, overlooked or ignored by the Court of Appeals, establishes the requisite intent and shows that UCC had the power to and

---

[4] As observed earlier, determination of intent involves "peculiarly factual issues for the trier of fact," subject to the "clearly erroneous" standard of Rule 52(a). *Pullman-Standard v. Swint*, 456 U.S. 273 (1982).

actually did control the means and methods employed by GSC, not just the result.

In December, 1979, before Law was first contacted by GSC, representatives of GSC and UCC met to discuss the proposed oxygen plant. Charles Cullinan, UCC's Project Manager for the oxygen plant, wrote a letter to confirm the discussion. Mr. Cullinan's letter included the following item:

> There are many apparent encumbrances underground on the specified site. GSC has agreed to have a soils report prepared by a competent firm. This work must include test borings. If it is determined that piling is not possible, GSC will have to prepare the site for compacted fill capable of 3000 psf loading.

UCC specified exactly how GSC must have the site investigated ("by a competent firm"), what type of investigation must be performed ("must include test borings"), and what would have to be done if piling foundations were not feasible ("prepare the site for compacted fill capable of 3000 psf loading"). Thus UCC, from the outset, took control of the means and methods by which the site would be investigated prior to construction. GSC thereafter retained Law to investigate the proposed oxygen plant site in compliance with UCC's detailed instructions.

In March, 1980, Law issued a written report on the results of its investigation. Sometime in June, Steve Blevins of Law was contacted by telephone by Ross Johnson, Supervisor of UCC's Civil Engineering Group. Mr. Johnson expressed his concern, after reading Law's report, about possible differential settlement which could ad-

versely affect sensitive process piping. UCC thereafter directed GSC, which in turn directed Law, to prepare a new report clarifying Law's recommendations in light of UCC's concerns.

In September, 1980, Steve Rishel of GSC called Steve Blevins of Law and requested a proposal for quality control testing during construction. Once again, GSC was dancing to UCC's tune. As UCC's Mr. Cullinan testified:

> Georgetown Steel was going to start excavation. We were not to keep anybody on the site. We'd have no reason to do that. But as a matter of prudence, we wanted to make sure that Law Engineering was involved to make sure that was done properly.

Again, UCC specified the means ("make sure that Law Engineering was involved") to be followed in obtaining the desired result ("make sure that [placement and compaction of fill] was done properly").[5]

GSC did exactly as UCC instructed. On September 29, Mr. Rishel wrote a memo to his boss, outlining the procedure which would be followed for preparation of the oxygen plant site. Mr. Rishel's memo states:

> A purchase requisition has been sent to Purchasing to contract Law Engineering to make Proctor Tests and Field Density Tests *to assure that 3000*

---

[5] Mr. Cullinan's testimony also makes it clear that what Carbide wanted from Law was assurance the the excavation was performed properly and the backfill compacted properly to achieve 3000 psf bearing capacity. Carbide was *not* looking to Law to determine whether slag was a "suitable" fill material for the oxygen plant.

psf bearing capacity required by Union Carbide is attained. (emphasis added).

This consistent course of conduct, from start to finish, makes it abundantly clear that in all of its dealings with Law, GSC intended to and actually did act on behalf of UCC, and UCC intended to and did control the manner and method by which GSC had the proposed site investigated and the construction work tested. That establishes an agency relationship.

At the very least, it compels the conclusion that a finding of agency by the District Court is "plausible in light of the record viewed in its entirety," and therefore "cannot be clearly erroneous." *Anderson v. City of Bessemer City*, 470 U.S. at 574.

D. *Conclusion.*

The decision of the Court of Appeals repeatedly violates the *Anderson v. City of Bessemer City* standard, by conducting a *de novo* evaluation of the evidence and substituting its evaluation of the evidence for that of the District Court. There is substantial credible evidence in the record to support the findings of the District Court. Where the evidence was conflicting, the District Court explained how and why it resolved the conflict. The District Court's findings with respect to Law's negligence and breach of warranty, GSC's contributory negligence, and GSC's status as agent for UCC are plausible in light of the record viewed in its entirety, and therefore cannot be "clearly erroneous."

To protect the integrity of the District Court's role in the factfinding process, this Court should grant the peti-

tion for certiorari, review the decision of the Court of Appeals, and reverse that decision. Failure by this Court to exercise its supervisory power in such a clear and compelling case would allow the "clearly erroneous" standard of Rule 52(a) to become an elastic rule, stretched and applied by each appellate court according to its own subjective view of whether a District Court's findings of fact are "correct." A trial on the merits will then be in danger of becoming a "tryout on the road," rather than "the main event." *See, Anderson v. City of Bessemer City,* 470 U.S. at 575.

GEORGE D. WENICK
(Counsel of Record)

ROBERT O. FLEMING, JR.
SMITH & FLEMING
2300 Peachtree Center Tower
230 Peachtree Street, N.W.
Atlanta, Georgia 30303-1505

Counsel for Petitioner

April 30, 1990

APPENDIX

Appendix A

UNITED STATES COURT OF APPEALS
FOR THE FOURTH CIRCUIT

No. 88-2884

GEORGETOWN STEEL CORPORATION

Plaintiff - Appellant

versus

UNION CARBIDE CORPORATION

Defendant - Appellant

LAW ENGINEERING TESTING COMPANY;
PITTSBURGH TESTING LABORATORY, INC.

Defendants - Appellees

No. 88-2979

GEORGETOWN STEEL CORPORATION

Plaintiff - Appellant

versus

UNION CARBIDE CORPORATION

Defendant - Appellant

LAW ENGINEERING TESTING COMPANY;

PITTSBURGH TESTING LABORATORY, INC.

Defendants - Appellees

Appeals from the United States District Court for the District of South Carolina, at Charleston. Falcon B. Hawkins, District Judge. (CA-85-440-2-1)

Argued: June 5, 1989 Decided: December 15, 1989

Before WIDENER and HALL, Circuit Judges, and ANDERSON, United States District Judge for the District of South Carolina, sitting by designation.

Charles Porter (E. Russell Jeter, Jr., James B. Moore, Jr., MCNAIR LAW FIRM, P.A., on brief); Thomas S. Tisdale, Jr. (Stephen P. Groves, YOUNG, CLEMENT, RIVERS & TISDALE, on brief) for Appellants. Robert Bruce Wedge (STOKES, SHAPIRO, FUSSELL & WEDGE, on brief); Robert O'Neal Fleming, Jr. (SMITH & FLEMING, on brief) for Appellees.

PER CURIAM:

This diversity case arises out of Georgetown Steel Corporation's ("GSC") use of steel slag as backfill under a railroad track scale, a truck scale, a refractory warehouse, and an oxygen separation plant, all of which are located on GSC's steel mill site in Georgetown, South Carolina. Shortly after swelling slag destroyed the oxygen separation plant which was owned and operated by Union Carbide Corporation ("Carbide"), GSC filed suit against Pittsburgh Testing Laboratory, Inc. ("PTL") and Law Engineering Testing Company ("Law") alleging negligence and breach of express and implied warranties on the part of PTL and Law in connection with their opinions regarding the suitability of slag as fill material. GSC also filed suit against Carbide for declaratory judgment to determine the respective rights and responsibilities of GSC and Carbide. Carbide cross-claimed against Law and PTL and counterclaimed against GSC. The court allowed GSC to recover for the damage to the track scale as a result of PTL's negligence but denied GSC's remaining claims against both PTL and Law. The court denied all of Carbide's claims. GSC and Carbide appeal. For the reasons set forth below, we affirm in part and reverse in part and remand.

I

A rather complex set of facts gave rise to this lawsuit. In 1979, Stephen Rishel, a civil engineer, was hired by GSC. His job required him to perform the civil engineering necessary for all of GSC's construction projects. His duties included some engineering design, the writing of specifications, preparation of drawings and the supervision of construction contractors. Prior to going to work at

GSC, Rishel worked as a construction engineer for a highway contractor in the Pittsburgh area. He had some experience with steel slag, having encountered it on at least two construction jobs and having seen it used behind retaining walls, as a base to support pavement, as backfill underneath drain pipe, and behind bridge abutments. In addition, he knew something of the expansive properties of certain slag having heard from a carpenter foreman on one of his construction jobs that a swimming pool under which steel slag had been placed was destroyed when the slag swelled.

Shortly after starting work at GSC, Rishel considered using GSC's steel slag as backfill as a cost saving measure.[1] Because of his knowledge that certain slag does swell, Rishel obtained approval from his supervisor, Bill Dobinski, to have the slag tested for its expansive properties. When he decided to have the slag tested, Rishel was not aware of any expansive characteristic of the particular slag produced by GSC nor was he aware that GSC frequently had its slag chemically analyzed and had been doing so since 1977.[2] Rishel contacted PTL and requested that cer-

---

[1] GSC manufactures wire rod by melting scrap metal and iron in an electric arc furnace. A by-product of the manufacturing process is a steel slag. GSC has large piles of slag available and constantly creates more.

[2] In February 1977, GSC entered into a contract with R. B. Pond Construction Company, Inc. for the sale of GSC's entire output of steel slag to Pond for a five-year period. Prior to entering into the contract, Pond had conversations with Owen Gochenaur, then president of GSC in which Gochenaur told him that GSC's slag was not used in the production of concrete because it swelled. Doug Lane of IMS, the company hired by GSC to process the steel slag, also informed Pond that the slag produced at GSC swelled. GSC periodically provided Pond with chemical analyses of the slag, none of which revealed a calcium oxide con-

tain tests be run on the slag to determine its expansiveness. An employee of PTL, Greg Kuske, conducted several tests on a slag sample including a swell test, under the direction of Dr. Harry Wu, who was totally unfamiliar with slag and its expansive nature. After the ninety-six hours of testing required by the American Society of Testing Materials, the percentage of swell was found to be .09%. Although Rishel had not asked PTL to determine whether the slag would be appropriate for use as backfill under any particular structures, on March 27, 1979, PTL issued a report with the following conclusion:

> Based on our tests results, the subject material is a well-graded, course-grained, greenish gray mill slag. The material has a very little effect on swell due to change in its moisture content. This material may be suitable for using as an engineered fill, provided that the material should be compacted to a minimum of 95% maximum density as obtained by Modified Proctor ASTM D-1557.

On the basis of this report, Rishel made the decision to use the slag for fill. His receipt of this report was the last contact Rishel or anyone else at GSC had with PTL until after problems with the slag backfill under the oxygen separation plant surfaced in 1982 .

---

tent of less than 40 percent. Bill King, the director of purchasing at GSC, received at least one of the analyses in 1977. It revealed that the slag contained 41.6 percent calcium oxide and 5.3 percent magnesium oxide. It is undisputed that calcium oxide causes rapid swelling and that magnesium oxide causes long-term swelling.

After he received the PTL report, Rishel used slag as backfill around the walls of a railroad track scale. A track scale contains the weighing mechanism for railroad cars, and is a concrete structure the size of a railroad car, sitting in the ground. Piles were placed under the scales, but slag was used to backfill around the walls of the structure. Shortly after its construction, problems developed with the track scale when the walls deflected inward and bound the weighing deck. Rishel testified that he did not suspect expanding slag as the problem at this point. The scale was repaired by its builder, Colt Industries, by placing jacks in the walls for structural support. Heavy truck traffic was also eliminated from the scales at the builder's suggestion. In September 1984, GSC had the slag replaced with gravel at a cost of $3,233.

In early 1980 slag was used as backfill to support the walls of a truck scale which was being installed on GSC's site. A truck scale resembles a track scale but weighs trucks instead of railroad cars. When problems developed with the pavement around the scale, it was moved to another location on the GSC site and a material other than slag was used as backfill because it was more convenient.

In the fall of 1980 slag was used as backfill under an extension built on to an existing refractory warehouse. Approximately a year later, GSC became aware of cracks in the floor of the refractory warehouse extension and attempted to repair the cracks by filling them with grout. The cracks reopened within a year. Rishel testified it was at this point, in the fall of 1982, that he first suspected that there might be a problem with the slag fill.

Three years earlier, in the fall of 1979, Rishel had learned that GSC and Carbide were negotiating for the construction of an oxygen separation plant on the GSC plant site. The plant's purpose was to provide GSC with oxygen and nitrogen in gaseous form at a price less than that at which GSC previously purchased the gases. Under an agreement entered into by Carbide and GSC on January 23, 1981, GSC agreed to provide a site for Carbide to build the plant, have an analysis of the soil conducted, and perform the necessary preparation of the site for construction. Preparation of the site involved two key elements. First, because the site was in close proximity to a river, proper support for the plant had to be determined. Second, because of the plant's structure and the sensitive nature of its equipment, Carbide would be able to tolerate only minimal differential settlement of the underlying support.

GSC contacted Law about providing professional engineering advice and testing services to assist in preparation of the site. On February 8, 1980, Law submitted a proposal to conduct a geotechnical exploration of the plant site, specifically, to provide "a general subsurface exploration to determine one or two reasonable solutions to major foundation and earthwork design and construction problems." On February 12, 1980, GSC and Law entered into a contract which provided that Law would furnish all labor, equipment, supervision, materials, tools, engineering, insurance, etc., "necessary to perform a subsurface investigation within the proposed construction area for Georgetown's New Oxygen plant," and would "analyze [sic] the conditions encountered to determine any solutions to major foundation and earth-

work design problems and submit a written report with these findings to Georgetown."

Pursuant to this contract, and after conducting an exploration of the plant location and performing various soil tests, Law issued a report on March 24, 1980. Stated in the report the purpose of the exploration was "to develop information about the site [for the oxygen separation plant] and subsurface conditions that could be used for assessing foundation alternatives for the new facilities." Law's investigation revealed that the area had been built up to its current elevations using a fill consisting of slag from the furnace operations at GSC. The fill contained soil, metal, concrete, and both organic and inorganic debris. Law made three alternative recommendations for site preparation: (1) dynamic compaction of the existing slag and sand fill to eliminate voids; (2) excavation of the soil/slag mixture and replacement with properly compacted sand; and (3) placement of the plant on properly driven piles. GSC had originally requested that Law evaluate the possible use of piles. The third alternative was offered in response to GSC's request even though Law noted that shallow foundations would be adequate to carry the loads involved, assuming proper site preparation. As to shallow foundations, a section in the report stated:

> In our opinion, mat-type foundations bearing on slag fill or new fill of silty sand (properly improved as outlined in the following section) could be used for the support of the proposed facility.

. . . .

> There is a greater degree of risk associated with foundations bearing in the slag fill rather than in virgin sands or sandy fill (used to replace the slag fill) since it is possible that voids and variations could exist in the slag fill, which may not be detected in site preparation procedures. This higher degree of risk may be reduced somewhat by the procedures outlined in the Site Preparation section. The acceptable risk level for this facility must be determined by Georgetown Steel and considered along with the cost of replacing the slag fill with properly compacted sandy fill or the cost of deep foundations. If the risk associated with placing foundations in the slag fill is deemed unacceptable, then replacement of the slag fill with properly compacted sand fill should be less expensive than deep foundations.

After receiving this report Carbide officials had several conversations with Stephen Blevins, chief soils engineer at Law, and reiterated the fact that the proposed plant could tolerate only minimal differential settlement due to the movement-sensitive nature of its equipment. In light of Carbide's concerns and to deal with the intolerance of differential settlement, Law clarified its recommendations in a second report on August 29, 1980, and recommended removal of the soil/slag/organic material in place and replacement with properly compacted clean sand backfill. On September 5, 1980, after receiving Law's second report, Rishel contacted Blevins and asked about the possibility of replacing the soil/slag/organic material with pure slag instead of clean sand, a move that would result in substantial savings to GSC ($1.40 per cubic yard). Rishel informed Blevins that the slag contained lime and heavy

metals and at Blevins' request gave him the results of PTL's grain-size analysis, but did not tell him of his knowledge that certain types of slag swelled and were inappropriate for use as backfill.[3] At this point, Blevins had no knowledge that certain types of slag were expansive. He approved the substitution of slag with confirmation of its gradation.[4]

During this same conversation, Rishel asked Blevins to prepare a proposal for Law to oversee the site preparation project. Law subsequently submitted a proposal which GSC accepted. It provided that Law would furnish engineers to observe the excavation and backfill replacement and would periodically conduct field density tests to insure that the material was being properly compacted. The proposal also stated:

> We understand from Mr. Rishel that the metal slag material, a by-product of the plants [sic] steel production, can be processed locally into a well graded artificial aggregate. With verification of this gradation, we anticipate the processed material will be suitable for use in the backfill required within the Oxygen Plant.

In October 1980, Fred Sharpe, a Law engineer, visited the plant site and obtained samples both of GSC's pure

---

[3] Blevins testified that at some point Rishel told him that slag had been successfully used as backfill at other plant locations.

[4] Confirmation of gradation involves a grain-size analysis, the purpose of which is to determine if a material will compact below the waterline. Silts will not compact below the waterline, so Blevins asked for the grain-size analysis from Rishel because he was concerned about the compactibility of the slag.

slag and of the soil/slag mixture which was in place at the site. During this visit, Rishel told Sharpe that GSC had previously used backfill with favorable results. He gave Sharpe a copy of the PTL report. Sharpe reviewed the report within two days of receiving it and then contacted Blevins who told Sharpe to confirm the gradation of the slag. Sharpe told Blevins that PTL had performed a swell test on the slag and although both pondered as to why the test was done, neither knew the reason for the test or asked anyone at GSC about it. So that Law could properly oversee the preparation of the plant site, Rishel also forwarded to Sharpe a copy of the site drawing and the site preparation specifications which required that the backfill material be compacted to a minimum of 95% maximum density.

During construction of the plant, Law performed inspection and testing at the construction site as per the proposal. That included observation of the excavation, placement and compaction of fill, and testing of the in-place density of the fill. On January 5, 1981, Law issued a report briefly summarizing its activities and giving the test results of two sieve analyses and two compaction tests. After the report was issued, and at Carbide's request, Rishel asked Sharpe to include information about the design bearing pressure. Sharpe reissued the report on January 20, 1981, with the following paragraph:

> Based on monitoring and approval of the excavation to suitable materials, and subsequent field density testing of structural fill, we recommend that foundations bearing in the fill material utilize a total maximum design bearing pressure of 3000 pounds per square foot.

Construction of the oxygen separation plant was completed in September 1981. Problems developed at the plant shortly thereafter. The problems were first noticed in 1982 when expansive slag caused stress on the electric cables and floor heaving caused tripping hazards. The Carbide plant manager initially thought the problems might be due to the foundations sinking, but he subsequently learned that the floor of the plant was rising.

In November 1982, Fred Sharpe suggested that Law conduct tests to determine if the slag beneath the plant was expansive and Carbide authorized those tests. Law performed chemical analyses and an autoclave test on the slag and on January 14, 1983, issued a report concluding that the slag was indeed expansive: "[T]he laboratory tests performed indicate a definite potential for expansion, both short term and long term, of the soil/slag mixture which supports the slab in question at the Union Carbide Oxygen Plant." Law's specific findings showed that:

> During the autoclave expansion test of samples molded from the soil/slag mixture and portland cement . . ., the samples exhibited severe cracking and crumbling. The cracking and crumbling indicate a high potential for expansion of the soil/slag mixture when exposed to moisture changes.
>
> The chemical analyses of the soil/slag mixture indicate a significant percentage by weight of ferric oxide, calcium oxide and magnesium oxide. The hydration of calcium oxide has been found to cause short term expansion and the magnesium oxide is thought to cause long term expansion during hydration. Also, the very significant amount of ferric oxide (47.5%) could possibly

lead to further expansion due to oxidation, carbonation or crystalline hydration.

In 1985 Carbide was forced to close the plant because of problems arising from the unstable foundation. The parties do not dispute that the problems at the oxygen separation plant were caused by expansion of the slag beneath the plant.

GSC subsequently filed suit against PTL, Law, and Carbide for damages resulting from the slag swell. Against PTL and Law, GSC alleged breach of express warranty, breach of implied warranty, and negligence. As to Carbide, GSC sought a declaratory judgment pursuant to 28 U.S.C. § 2201 that GSC had no duty to Carbide for the damage to its air separation plant under the January 23, 1981, contract entered into between the parties. Carbide cross-claimed against Law and PTL and counterclaimed against GSC. Prior to trial, Carbide settled its claims against GSC and assigned GSC its claims against PTL and Law, which claims remained separate from GSC's claims.

Following a bench trial, the court found that PTL was negligent in approving the use of steel slag as backfill but that GSC could recover only for the cost of replacement of the slag at the track scale because of its own contributory negligence in continuing to use slag as backfill after the problems at the track scale. The court also found PTL liable to GSC for breach of implied warranty, but denied damages finding that it was not foreseeable that the slag would be placed under any particular structure. The court found that there was no express warranty from PTL to GSC. The court denied GSC's negligence and express and implied warranty claims against Law on grounds that the

expansiveness of the slag did not fall within the scope of Law's duties under the proposals. Finally, the court denied all of Carbide's claims against Law on the theory that GSC was Carbide's agent, and therefore, Carbide's rights were governed by the same result reached on GSC. GSC and Carbide appeal.

II.

GSC's first contention on appeal is that the district court erred in finding GSC contributorily negligent. GSC also contends that the court erred in finding that the costs of repairing the warehouse extension and the oxygen separation plant were not recoverable from PTL for breach of implied warranty. Finally, GSC argues that the court erred in holding that Law was not liable for negligence or for breach of implied or express warranty. Carbide argues that the court erred in finding that Carbide was not a foreseeable victim of PTL's negligence and therefore could not recover for that negligence. Carbide also argues that the court erred in finding that GSC was Carbide's agent for purposes of dealing with Law and that because GSC was not entitled to recover against Law, neither was Carbide. We address these issues seriatim.

The district court found that PTL was negligent when it rendered an opinion that the slag it tested for GSC "may be suitable for using as an engineered fill," when by its own admission PTL gave this opinion without conducting a full-scale soil investigation and with knowledge of the expansive qualities of electric arc slag.[5] The finding of

---

[5] In 1979, when PTL wrote the report at issue here, its Jacksonville, Florida office had a library that contained a professional article entitled

negligence on the part of PTL is not disputed on appeal. What is disputed is the court's finding that GSC could only recover for PTL's negligence with regard to the track scale because of its own contributory negligence with regard to the remaining structures.

The court based the finding of contributory negligence on the fact that GSC failed to have the slag tested further after the problems with the track scale developed and went on to use slag as backfill around three other structures, even though Rishel was aware of the potential for swell in steel slag and GSC knew its slag swelled, frequently had it chemically analyzed, and had done so since 1977. Under the circumstances, the district court found it "incredulous" that no one at GSC suspected slag swell as the cause when the problems at the track scale developed. The court allowed GSC to recover for damage to the track scale, $3,233, but denied recovery for damage to the other structures.

In South Carolina, contributory negligence of the plaintiff is a complete bar to recovery on a negligence claim. *South Carolina Insurance Co. v. James C. Greene and Co.*, 290 S.C. 171, 348 S.E.2d 617 (1986). Contributory negligence is defined as

---

"Building Damage from Expansive Steel Slag Backfill." In addition, Jack Roseman, manager of PTL's geotechnical department, testified that he knew in 1979 that electric arc furnace slag could swell, and included a statement in all of his geotechnical soil reports warning against the use of this type of slag as backfill.

> a lack of ordinary care on the part of a person injured by the negligence of another which combines and concurs with that other's negligence and contributes to the injury as a proximate cause without which injury would not have occurred.

Id. at 177, 348 S.E.2d at 620.

The question before us is whether, under this standard, the district court's finding that GSC was contributorily negligent was clearly erroneous. Evidence at trial showed that in 1977 GSC's president, Owen Gochenaur, knew that GSC's slag contained chemical properties that caused it to swell. Although Gochenaur left GSC in 1978, Bill King, the director of purchasing, remained an employee for some time and he also knew about the swelling properties of the slag. Further, although Steven Rishel, the civil engineer in charge of GSC's construction projects, testified that he did not suspect that slag swell was the problem with the various structures until 1982, and therefore took no action to determine whether the slag was expansive, he knew in 1979 that certain slag swelled. Under the circumstances, Rishel should have been on notice that the slag may have been swelling. There was testimony that a reasonably prudent civil engineer with Rishel's background and knowledge should have suspected slag swell as the problem with the track scale, and should have, at that point, had the slag tested again, to determine if it was causing the problem at the track scale. On the basis of this evidence and that which indicated that GSC itself had knowledge that its slag had expansive qualities, we cannot say that the district court's finding that GSC was contributorily negligent was clearly erro-

neous. Instead, it is supported by the evidence and must be affirmed.

III.

GSC next contends that the district court erred when it found that PTL had breached its implied warranty to GSC, but denied damages for the cost of repairing the warehouse and the oxygen separation plant. The court found that PTL was not liable for damages because, in March 1979 when the PTL report was issued, neither party contemplated that the refractory warehouse addition or the oxygen separation plant would be built on the slag. Had PTL known that the slag would be placed under a multi-million dollar structure, the court found that it may have conducted further tests, conducted literature searches, and/or contacted other PTL offices to substantiate its conclusion with regard to the steel slag.

In reaching its decision, the court relied on *Georgetown Towing Co. v. National Supply Co.*, 204 S.C. 445, 29 S.E.2d 765 (1944). There the plaintiff purchased a marine engine from the defendant under a written contract of sale. The plaintiff alleged that the contract required the defendant to furnish a competent mechanic to supervise the installation of the engine in plaintiff's boat. When the engine broke down, the plaintiff sued alleging breach of implied warranty in failing to properly install the engine. The court found that defendant impliedly warranted the proper installation of the engine and that defendant breached that warranty. In addressing the issue of damages, the court said:

> In a case of this kind, the buyer may recover, in addition to general damages, any special or consequential damages which he may have suffered by reason of breach of warranty, and which are the natural and direct or proximate result of the breach, and may reasonably be considered as within the contemplation of the parties at the time the contract was made.

29 S.E.2d at 767 (citations omitted). The court allowed the plaintiff to recover the cost of repairing the engine and damages for loss of business during the time the boat was laid up for repairs, finding that the defendant was aware that the engine was purchased to enable plaintiff to conduct its business. The district court in this case relied upon the language in *Georgetown Towing* in finding that GSC could not recover for damage to the warehouse addition and the oxygen separation plant because neither structure was within the contemplation of the parties when the implied warranty arose.

Appellants argue that the cost of repairing the warehouse extension and the oxygen separation plant comes within the category of general damages and as such, their recovery does not depend upon whether the structures were within the contemplation of the parties. We disagree. In *Sheek v. Lee*, 289 S.C. 327, 345 S.E.2d 496 (1986), the South Carolina court distinguished between general and special damages. "General damages are those which must necessarily result from the wrongful act upon which liability is based," 345 S.E.2d at 497. "Damages for losses that are the natural and proximate, but not the *necessary*, result of the injury may be recovered only when such special damages are sufficiently stated and claimed."

Id. Damages for the cost of repair of a multi-million dollar structure can hardly said [sic] to be general damages that necessarily resulted from PTL's negligence. It is undisputed that GSC did not tell PTL anything about the proposed construction of either the warehouse extension or the oxygen separation plant when it engaged PTL's services to conduct the slag tests. The evidence on this point is clear. Therefore, we conclude that the district court did not err in finding that GSC was not entitled to recover for the cost of repair to those structures their construction not being within the contemplation of the parties either when PTL was hired or when it issued its report. The district court's finding on this point is affirmed.

IV.

Next, GSC contends that the district court erred in denying its negligence and breach of warranty claims against Law for damages arising from destruction of the oxygen separation plant. The district court found that Law had no duty under its agreements with GSC to determine whether the slag was expansive and therefore was not negligent in failing to conduct a literature search, failing to test the slag for expansiveness, or failing to inform GSC of its knowledge that slag swelled. In addition, the court found that GSC was contributorily negligent in not telling Law of the problems at the track scale and in telling Law that GSC had used slag successfully and without incident in the past. The court found GSC's contributory negligence a proximate cause of the damage to the plant, for had Law been put on notice that the slag had caused problems in the past or that slag had been placed around the walls of the track scale and problems later developed,

it could have investigated the properties of the slag more thoroughly.[6]

After thoroughly reviewing the evidence in this case, we conclude that the district court's finding that Law was not negligent in approving the use of slag as backfill under the oxygen separation plant is clearly erroneous. The court found that it was not part of Law's duties to test for expansiveness of the slag. We recognize that there is no express language in any agreement or proposal in the record that specifically required Law to test for expansiveness of the slag. However, Law was asked to give an expert opinion on the type of foundation necessary to support the oxygen separation plant and in doing so it specifically approved the use of GSC's slag to support the foundations. In its March 24, 1980, report Law set out three alternative recommendations for site preparation. One of those recommendations was to place the plant on the existing slag and sand fill after dynamic compaction. The report stated about the recommendations: "The enclosed guideline recommendations for foundation design represent foundation approaches which we feel would be appropriate."

Subsequently, in response to a question from GSC, Law approved the use of pure slag as backfill. On September 9, 1980, Law wrote that "[w]ith verification of . . . gradation, we anticipate the processed material will be suit-

---

[6] The evidence showed that Law, like PTL, had a copy of the article "Building Damage from Expansive Steel Slag Backfill." The article was in Law's Atlanta, Georgia office. The report to GSC was issued out of Law's Birmingham, Alabama office.

able for use in the backfill required within the Oxygen Plant." As a professional geotechnical and materials engineering company, hired for its expertise in the field, Law was clearly negligent in approving the use of GSC's slag as appropriate backfill material, especially in view of Stephen Blevins' admission that he was not qualified by experience or training to deal with slag, that he knew nothing about the expansive properties of slag, and that he had no prior experience with the use of slag. Further evidence of Law's negligence is seen from the testimony of Paul Gooding who, as an employee of Law from 1968 to 1986, testified as Law's corporate representative. Gooding testified that he and probably all other geotechnical engineers employed in Law's Birmingham office knew in the early 1970's that slag had expansive qualities and that it could cause problems if used as backfill material.

The district court found that it was reasonable for Law to rely upon Rishel's statements that slag had been used in the past as backfill at GSC and not to pursue the expansiveness issue because of these statements. We cannot agree. Law's corporate knowledge of the expansive qualities of slag, coupled with Stephen Blevins' lack of familiarity with the material, should have put Law on notice that before it rendered an opinion that slag was suitable for backfill under a multi-million dollar plant, it should have inquired further. It is undisputed that Law knew exactly what structure was going to be built and that the construction of the foundation of that structure was going to be based on its recommendation. An opinion that the slag was suitable as backfill inherently and necessarily included a finding that the slag would not swell and destroy the plant. Under these circumstances, it is clear

that Law was negligent in approving the slag as backfill without testing it for expansiveness.

The district court also found that GSC was contributorily negligent in failing to inform Law that there had been a problem at the track scale and in informing Law that slag had been used successfully in the past. We do not believe these facts support a finding of contributory negligence. Although making and omitting to make such statements was negligent, GSC's conduct was not contributorily negligent so as to bar recovery because it did not contribute "to the injury as a proximate cause without which injury would not have occurred." *South Carolina Insurance Co. v. James C. Greene and Co.*, 290 S.C. 171, 348 S.E.2d 617 (1986). The proximate cause of the destruction of the plant was Law's opinion that the oxygen separation plant could be built on foundations placed in slag.

The district court denied GSC's warranty claims against Law for the same reason that it denied its negligence claim, *i.e.*, that Law had no duty to determine whether the slag was expansive. The court found that the only warranty running from Law to GSC was defined by the relevant contract documents. In those documents Law warranted that it would perform its tasks with that degree of skill and care exercised by engineers practicing in the locality. The issue is whether Law breached that warranty when it rendered its opinion that slag would be suitable backfill for the foundation of the oxygen separation plant. Having concluded that Law was negligent because its duties included the determination of the expansiveness of the slag and it failed to make that determination, we must also reverse the district court on this point. Law clearly

breached its warranty when it approved the use of slag under the oxygen separation plant without first testing its suitability.

V.

Carbide contends that the district court erred in holding that it could not recover for PTL's negligence. The court denied recovery finding that PTL owed no duty to Carbide because it was not foreseeable that Carbide would rely on PTL's report and suffer damages as a result of that reliance. Carbide argues that it was foreseeable to PTL that some structure would be built on the slag fill; the fact that Carbide built the structure instead of GSC does not obviate PTL's duty to perform without negligence.

In South Carolina, a cause of action for negligence requires: (1) the existence of a duty on the part of the defendant to protect the plaintiff; (2) the failure of the defendant to discharge the duty; and (3) injury to the plaintiff resulting from the defendant's failure to perform. *South Carolina State Ports Authority v. Booz-Allen & Hamilton, Inc.*, 289 S.C. 373, 346 S.E.2d 324 (1986) . The absence of any one of these elements renders the cause of action insufficient.

Foreseeability of injury, in the absence of a duty to prevent the injury, is an insufficient basis upon which to rest liability. *Tolar Construction Company v. GAF Corporation*, 154 Ga. App. 127, 267 S.E.2d 635, *rev'd on other grounds*, 246 Ga. 411, 271 S.E.2d 811 (1980). Foreseeability

itself does not give rise to a legal duty.[7] A tortfeasor's duty arises from his relationship to the injured party. This relationship may arise out of the tortfeasor's contractual relationship with a third party. *Barker v. Sauls*, 289 S.C. 121, 345 S.E.2d 244 (1986). This is exactly the argument Carbide makes, *i.e.*, that out of its relationship with GSC, who had a contractual relationship with PTL, arose a relationship between Carbide and PTL.

In *South Carolina State Ports Authority v. Booz-Allen & Hamilton, Inc.*, 289 S.C. 373, 346 S.E.2d 324 (1986), the South Carolina court recognized that liability for negligence in preparing reports has, in certain circumstances, been extended to parties other than those to the contract and that consultants may be found liable in negligence to non-contracting parties who have reasonably relied on their reports in taking some action. In that case the Georgia-Ports Authority contracted with Booz-Allen & Hamilton, a consulting firm, to prepare a report comparing the merits of the Savannah port with the Charleston port for commercial traffic. The report was highly favorable to the Savannah port and contained false facts and figures concerning the Charleston port. Distribution of the report by the Georgia Ports Authority to domestic and foreign customers and potential customers resulted in decreased traffic in the Charleston port. The South Carolina State Ports Authority, the Pilots Association, and two local

---

[7] A legal duty is that which the law requires to be done or forborne with respect to a particular individual or the public at large. *S.C.E. & G. v. Utilities Construction Company*, 244 S.C. 79, 135 S.E.2d 613 (1964).

chapters of the Longshoremen's Association sued Booz-Allen & Hamilton for negligence.

The South Carolina court held that Booz-Allen & Hamilton owed a duty to the South Carolina State Ports Authority to exercise due care to accurately report objective factual data concerning the Charleston port, if it knew or should have known the report was intended to be used by Georgia Ports Authority as a marketing device.

> We hold a duty to use due care, running from a consultant to the commercial competitor who is being critiqued, arises when the consultant undertakes to objectively analyze and compare the attributes of commercial competitors for the purpose of giving one a market advantage over the other.

345 S.E.2d at 326.

However, the court found no duty owed by Booz-Allen & Hamilton to individuals who relied upon the shipping traffic in the Charleston port for commercial profit. The court found this relationship far too attenuated to rise to the level of a duty flowing between them. "The concept of duty in tort liability must not be extended beyond reasonable limits." 346 S.E.2d at 326 (citation omitted).

Application of the principles of *Booz-Allen & Hamilton* to the facts of this case mandates that Carbide's claim be denied. There is absolutely no evidence that PTL knew or should have known that GSC was going to enter into a contract with Carbide and that under that contract Carbide would build a multi-million dollar oxygen prepa-

ration plant on top of slag fill, relying on PTL's report that slag was appropriate backfill. Nor is there evidence that Carbide relied on PTL's report or even that anyone at GSC informed Carbide of the existence of the report. To extend PTL's duty to Carbide under these circumstances would in our opinion be to extend it beyond reasonable limits. We therefore affirm the district court's denial of Carbide's negligence claim against PTL.

VI.

Finally, Carbide contends that the district court erred in denying its claims against Law for negligence and breach of warranty on the theory that an agency relationship existed between GSC and Carbide thus binding Carbide, the principal, to the same result as that reached by the court as to GSC, the agent. We agree.

Agency is a fiduciary relationship that depends initially on intent. 3 AM. JUR.2d *Agency* § 17 (1986). "Before an agency relationship can exist, the principal must intend that the agent shall act for him, and the agent must intend to accept the authority and act on it, and the intention of the parties must find expression either in words or conduct between them." *Courtney v. Remler*, 566 F. Supp. 1225, 1230 (D.S.C. 1983). However, under South Carolina law an agency relationship does not require an express agreement to that effect between the parties, but may be implied or inferred from the words and conduct of the parties. *Bankers Trust of South Carolina v. Bruce*, 323 S.E.2d 523 (S.C. Ct. App. 1984). The existence of an agency, nonetheless, must be clearly established. *McCall v. Finley*, 294 S.C. 1, 362 S.E.2d 26 (1987). The cornerstone of an agency relationship is the power of the prin-

pal to control the conduct of his agent. *Sharpe v. Bradley Lumber Co.*, 446 F.2d 152, 153 (4th Cir. 1971). This power to control the means and methods employed by the agent, and not just the result, distinguishes an agency relationship from that of independent contractor. *Fernander v. Thigpen*, 278 S.C. 140, 293 S.E.2d 424 (1982).

Applying these principles to the facts of the case before us, we conclude that there was no agency relationship between GSC and Carbide and that the court's finding to the contrary is clearly erroneous.[8] We do not find from the facts of this case any evidence of intent on the part of GSC to act as Carbide's agent with Law, nor do we find evidence of intent on the part of Carbide that GSC act on its behalf and subject to its control.

The contract entered into by GSC and Carbide was an armslength transaction. It obligated each party to undertake and complete certain tasks. One of GSC's duties under the contract was to perform the necessary preparation of the site for construction. To assist it in the site preparation, GSC hired Law. There is no evidence that Carbide gave GSC consent to hire Law, controlled GSC's conduct in any manner, or that GSC intended to act in Carbide's behalf in entering into the agreement with Law. GSC was clearly attempting to fulfill its responsibilities under its

---

[8] As the district court noted, the determination of the existence of an agency relationship is a question of fact and such is reviewed under the clearly erroneous standard. *Gathers v. Harris Teeter Supermarket, Inc.*, 282 S.C. 220, 317 S.E.2d 748 (1984).

agreement with Carbide, not to conduct business on Carbide's behalf .[9]

The district court found an agency relationship from the facts that after receiving Law's first report, Carbide officials contacted Law and reiterated that the plant could tolerate only minimal differential settlement and that after Law's January 1981 report was issued, at Carbide's request, Rishel asked Law to clarify its position on design bearing pressure.

Neither of these instances evidence an agency relationship. Neither shows that Carbide had the right to control the conduct of GSC that is required for an agency to exist. This evidence merely shows that Carbide was concerned with the end result — that the plant site be properly prepared to support the oxygen separation plant as required by its agreement with GSC.

Under the circumstances, we are of the view that the court erred in finding an agency relationship and denying Carbide's claims against Law on the same basis that it denied GSC's claims.

---

[9] Law makes much of the fact that the contract between GSC and Carbide was not entered into until after GSC had already hired Law to perform certain soil tests which Carbide required for proper site preparation. All this indicates is that prior to execution of the written contract, GSC was aware from its discussions with Carbide that it was going to have the task of site preparation for the plant and that GSC hired Law to assist in that preparation. This fact does not establish an agency relationship.

VII.

Accordingly, the judgment of the district court is affirmed in part, reversed in part, and remanded for proceedings consistent with this opinion including a determination of damages.

AFFIRMED IN PART;
REVERSED IN PART; and
REMANDED.

WIDENER, Circuit Judge, Concurring:

I concur in the result reached by Judge Hall's opinion.

ANDERSON, Joseph F., Jr., District Judge, Concurring in Part and Dissenting in Part:

I concur with parts I, II, III, and V of the majority's decision. I am of the opinion, however, that the district judge's findings as to Law's negligence and breach of warranty, GSC's contributory negligence, and GSC's status as an agent of Carbide were not clearly erroneous, because they are "plausible in light of the record viewed in its entirety." *Anderson v. City of Bessemer City, North Carolina*, 470 U.S. 564, 574 (1985). I therefore respectfully dissent from parts IV and VI of the opinion. I would affirm the decision below in all respects.

Appendix B

IN THE UNITED STATES DISTRICT COURT
FOR THE DISTRICT OF SOUTH CAROLINA
CHARLESTON DIVISION

GEORGETOWN STEEL CORPORATION,	)	CIVIL ACTION #2:85-0440-1
Plaintiff,	)	
vs.	)	ORDER
UNION CARBIDE CORPORATION, LAW ENGINEERING TESTING COMPANY, and PITTSBURGH TESTING LABORATORY, INC., Defendants.	)	

This case arises out of Georgetown Steel Corporation's use of steel slag as backfill under a railroad track scale, a truck scale, a refractory warehouse, and, most significantly, an oxygen separation plant, all of which were located on Georgetown Steel Corporation's site in Georgetown, South Carolina. The plaintiff filed suit against the three defendants, seeking a declaratory judgment against Union Carbide Corporation (UCC) and monetary damages against Law Engineering Testing Company (Law) and Pittsburgh Testing Laboratory, Inc. (PTL). UCC cross-claimed against Law and PTL, and also filed a counter-claim against Georgetown Steel Corporation (GSC).

The case was tried before the court, sitting without a jury, from April 5, 1988 to April 12, 1988. Just prior to trial, UCC notified the court and the other defendants that it and GSC had settled their differences. The settlement included UCC's assignment to GSC of all claims against Law and PTL. The case proceeded with only GSC prosecuting claims against Law and PTL.

During the trial of the case, many objections were noted concerning the scope of the testimony of certain expert witnesses. The court postponed ruling on these objections and, after trial, instructed the parties to brief their positions in reference to the scope of the experts' testimony. The court will rule on these objections in its Conclusions of Law, but has not considered any of the evidence to which an objection will be sustained.

The court, having considered the testimony and the exhibits admitted at trial and the proposed findings of fact and conclusions of law submitted to the court after the trial, makes the following Findings of Fact and Conclusions of Law in accordance with Rule 52(a), Federal Rules of Civil Procedure:

FINDINGS OF FACT

1. GSC is a Delaware corporation with its principal place of business in Georgetown, South Carolina. Law is a Georgia corporation with offices throughout the United States, including an office in Charleston, South Carolina. PTL is a division of Professional Service Industries, Inc., which is headquartered in Lombard, Illinois. In 1979, PTL was a Pennsylvania corporation with its principle place of business in Pittsburgh, Pennsylvania.

2. Steel slag is a byproduct of the steel-making process. It is a grayish-green material with the consistency of crushed gravel or sand.

3. GSC manufactures wire rod, and the process includes melting scrap metal and iron in an electric arc furnace. Different steel making processes produce steel slag with differing characteristics. The GSC steelproducing process results in a steel slag rich in calcium oxide and magnesium oxide. When this slag is introduced to water, the calcium oxide and the magnesium oxide hydrate and cause the slag to swell. Calcium oxide causes rapid swelling, and magnesium oxide causes long-term swelling.

4. On or about February 9, 1977, R. B. Pond entered into a contract with GSC on behalf of his company, R. B. Pond Construction Company, Inc. The contract provided that R. B. Pond Construction Company, Inc., which is in the business of building and paving roads and producing asphalt, would purchase GSC's entire output of steel slag for a period of five (5) years.

5. Prior to entering the 1977 contract, Pond had conversations with Owen Gochenaur, then president of GSC, in which Gochenaur told him that the slag was not used in the production of concrete because it swelled. Doug Lane of IMS[1] also informed Pond that the slag produced at

---

[1] IMS is the company hired by GSC to process the steel slag. The processing involves removal of metals and crushing the slag into a usable grain size.

GSC swelled and that it could be cured by exposing it to a spray of water for a one (1) year period.

6. GSC periodically provided Pond with chemical analyses of the steel slag none of which revealed a calcium oxide content of less than forty (40%) percent.

7. Bill King, the director of purchasing at GSC, received at least one of the chemical analyses in 1977. The analysis received by King revealed that the slag contained forty-one and six-tenths (41.6%) percent calcium oxide and five and three-tenths (5.3%) percent magnesium oxide.

8. In February 1979, Steve Rishel began work at GSC. Rishel received a Bachelor of Science degree in civil engineering from the University of Pittsburgh in 1964 and is a registered professional engineer in Pennsylvania, North Carolina and South Carolina.

9. Prior to beginning work at GSC, Rishel worked in the construction business mostly in the Pittsburgh area. He had fairly extensive experience with steel slag, and had encountered slag on at least two (2) projects in the Pittsburgh area. In addition, as a construction engineer for E. J. Albrecht, he had seen slag used behind retaining walls, as a base to support pavement, as backfill underneath drainage pipe, and behind bridge abutments.

10. Skip Wolf was a carpenter on one of the jobs on which Rishel had previously worked. He told Rishel of a bad experience he had had placing slag underneath a swimming pool. Wolf told Rishel that the slag underneath the pool expanded and destroyed the pool.

11. After arriving at GSC in 1979, Rishel wanted to use the steel slag as backfill, so he decided to have it tested. He testified that the purpose of having the slag tested was to determine if it was expansive.

12. Rishel told his boss, Bill Dobinski, about his knowledge of the expansiveness of slag[2] and about the swimming pool incident, and he asked Dobinski if he could obtain a report from PTL.

13. Rishel testified that he had no knowledge of any previous testing of GSC's slag. However, he also testified that he never determined if anyone at GSC had any prior knowledge of any tests run on GSC's slag or any knowledge of whether the slag expanded. Thus, Rishel was not aware that the slag was frequently chemically analyzed, nor was he aware of any expansive characteristic of the particular slag produced by GSC.

14. At that time in early 1979, Lynn Clark of PTL was working locally at a PTL field office. Rishel contacted Clark and asked him about the slag. Clark said he had no knowledge about slag and directed Rishel to PTL's Columbia, South Carolina, office.

15. On or about March 8, 1979, Rishel called PTL and spoke with Charles Nicholson.

---

[2] Throughout this order, the court will refer to an individual or a party having knowledge that slag is expansive or that slag swells. Unless otherwise specified, this reference means only that the individual or party had previous experience with expansive slag, and does not mean that the individual or party was aware that GSC's slag swelled or of which particular types of slag were expansive.

16. Nicholson testified at the trial of this case. He currently lives in Chapin, South Carolina, and works as the building superintendent at the First Baptist church in Columbia. He attended high school and two (2) years of college. He is not an engineer. He became the district manager at PTL's Columbia office in 1972, and was still in that position when he spoke with Rishel on or about March 8, 1979.

17. The parties hotly dispute the contents of the conversation between Rishel and Nicholson. Rishel admits that he did not know to whom he spoke when he called PTL in 1979 to inquire about having the slag tested. He claims, however, that he called PTL's office and told to whomever he spoke that he wanted to use steel slag as backfill, that he knew that steel slag occasionally swelled, and that he wanted to have the GSC slag tested to determine if it was of the expansive variety and if it could be appropriately used as backfill. He claims that in response the person at PTL suggested four (4) tests, and that he subsequently sent in a purchase requisition and received a purchase order from GSC's purchasing department authorizing PTL to conduct these four (4) tests on the slag.

18. Nicholson claims, on the other hand, that he was unfamiliar with steel slag and with the swell test which was among the tests run by PTL. He admits that he has no specific recollection of the conversation, but claims that he could not have suggested the tests to Rishel because he would not have known to do so. He also testified that it was not normal procedure for him to suggest tests to clients since he is not an engineer. Furthermore, Nicholson testified that if the conversation had taken place as

Rishel suggests, the problem-solving nature of Rishel's request would have resulted in PTL's billing GSC on an hourly rate. There is no dispute that the bill for PTL's service was calculated on a per test basis and totalled four hundred ($400) dollars.

19. The court finds that the conversation between Rishel and Nicholson more closely resembled Nicholson's version. The court bases this finding on the following: (1) Rishel had previous experience in the road industry, (2) the swell test is part of the California Bearing Ratio test which determines the strength of materials to be placed under roads, (3) Rishel had experience with swell tests in school, (4) Nicholson was not an engineer and knew nothing about swell tests, (5) of all of the persons who testified, Nicholson was uniquely disinterested in the outcome of the trial, and (6) PTL did not bill GSC on an hourly rate, but billed on a per test rate consistent with the scenario to which Nicholson testified.

Thus, the court finds that Rishel suggested the tests to PTL to run and obtained a purchase order for the running of those particular tests. The court further finds that Rishel did not ask PTL to solve the more general problem of whether the slag was appropriate for use as backfill under structures.[3]

---

[3] Since the court reaches the above conclusion with respect to the Rishel/Nicholson conversation, it need not address PTL's contention that Rishel was contributorily negligent in relying on Nicholson to suggest the tests since Rishel knew nothing of Nicholson's background.

20. The GSC purchase order calls for a "standard proctor test, swell test, moisture and unit weight test on slag sample."

21. After receiving the GSC purchase order, a PTL representative obtained samples of the GSC slag and sent them to Columbia. Columbia in turn sent the slag to the PTL office in Jacksonville, Florida, with instructions concerning the tests to be run.

22. In 1979, Greg Kuske was a technician in PTL's Jacksonville office. He conducted the required tests under the supervision of Dr. Harry Wu, who obtained a Ph.D. in geotechnical engineering from the University of Kentucky in 1976.

23. Dr. Wu had never before encountered slag and knew nothing of the expansive nature of slag.

24. Dr. Wu reiterated in his testimony that he was only to conduct tests requested by GSC and was not to conduct a full-scale soil investigation.

25. Under the direction of Dr. Wu, Kuske performed four (4) tests on the steel slag from the IMS stockpile at GSC. The tests included a moisture content determination, grain-size analysis, proctor density test, and a swell test.

26. The grain-size analysis involves pouring the material tested through a series of graduated sieves to determine its grain size. The proctor test determines the optimal moisture content and the maximum dry density. These two tests generally relate to the compactability of

the material and are apparently not relevant to determining swell potential.

27. The swell test is part of the California Bearing Ratio (CBR) test. The CBR test is used in the construction of roads to determine the strength of materials to be used under pavement. The swell test was conducted by PTL in accordance with the American Society for Testing Materials (ASTM) standard D-1883. ASTM D-1883 requires that the swell test be conducted for ninety-six (96) hours.

28. After ninety-six (96) hours of testing, a slag sample[4] with an original height of four and fifty-eight/100ths (4.58") inches swelled four/1,000ths (.004") of an inch. The percentage of the swell was nine/100ths (.09%) percent.

29. The device which measures swell is accurate to between five/10,000ths (.0005") of an inch and one/1,000th (.0001") [sic] of an inch.

30. The sample was measured for swell at the following intervals: one (1) hour, two (2) hours, four (4) hours, twenty-four (24) hours, forty-eight (48) hours, seventy-two (72) hours, and ninety-six (96) hours. These various measurements indicated that approximately two-thirds (2/3) of the total swell occurred during the final twenty-four (24) hours of testing.

31. On or about March 27, 1979, and after conducting these tests, PTL issued a report authored by Dr. Wu and

---

[4] Actually, three samples of slag were tested. The results discussed herein represent roughly the average of the calculations with respect to the three samples.

reviewed and approved by Charles Moore, who at that time managed PTL's Jacksonville office.

32. The report issued by PTL described the test results and then, unfortunately, contained a section captioned "Conclusions." This section read in its entirety:

> Based on our test results, the subject material is a well-graded, coarse-grained, greenish gray mill slag. The material has a very little effect on swell due to change in its moisture content. This material may be suitable for using as an engineered fill, provided that the material should be compacted to a minimum of 95% maximum density as obtained by Modified Proctor ASTM D-1557.

The report is signed by Dr. Wu.

33. The court heard several definitions of the term "engineered fill." The description which most accurately summarizes the various definitions and accurately describes engineered fill comes from the testimony of Jack Roseman whom PTL designated as its corporate witness. Roseman testified as follows in response to questions propounded by GSC's attorney, Alan Runyan:

> Q. What is an engineered fill?
>
> A. An engineered fill is a fill that is placed in lifts of a predetermined thickness and compacted by some means of compaction equipment to a desired specified percentage of compaction.
>
> Q. Then what?
>
> A. As underlying lifts are achieved, the specified compaction, the subsequent next lift is placed, compacted, tested. Once the compaction

is achieved, then it's brought up to the desired subgrade elevation.

Q. Does an engineered fill contemplate that something is going to go on top of it that's not fill material?

A. Yes and no. Sometimes you can have a structure or a pavement or a highway. Other times it could be a ball field or a parking lot or just a storage area, outside storage area, something like that.

Based on this testimony and the testimony of the other engineers who testified at trial, the court finds that an "engineered fill" is a material placed in lifts of predetermined thickness and compacted to a predetermined density upon which may be placed structures or pavement.

34. Rishel received the PTL report and decided based on this report that he could use the slag as engineered fill. Rishel's receipt of the PTL report was the last contact he or anyone at GSC had with PTL until problems with the slag backfill under the oxygen separation plant surfaced.

35. He first used the slag as backfill to support a track scale. A track scale is a concrete structure, four (4') feet deep, with a weighing mechanism which weighs railroad cars. Piles were placed under the scale, but slag was used to backfill around the walls of the structure.

36. Very shortly after the construction of the track scale, problems developed. More specifically, the walls of the track scale deflected inward and bound the deck. Rishel testified that he did not, at this point, suspect that the problem was caused by expanding slag nor did he tell

anyone involved with the construction or repair of the track scale that he was aware that some slag expanded. Jacks were placed in the walls to add structural support, and the original slag backfill was removed and replaced with more slag.

37. The repairs to the track scale were performed by Colt Industries. David Valk, the service manager of Colt Industries, indicated in a memorandum dated October 22, 1979, to S. Koehle, the Executive Vice President of GSC, that the problem might be alleviated by GSC's instigation of procedures to eliminate Euclid[5] traffic in the vicinity of the track scales.

38. In September of 1984, GSC had the slag around the track scale removed and replaced with gravel. The cost of this repair was three thousand two hundred thirty-three ($3,233.00) dollars.

39. The next project which involved slag was the installation of a truck scale in early 1980. This structure resembles a track scale but weighs trucks instead of railroad cars. Slag was placed as backfill to support the walls of this structure also. Problems developed with the pavement around the scale, and it was moved to another location at the GSC plant. After relocation, a material other than slag was used as backfill around the scale because it was more convenient.

---

[5] A Euclid is a heavy truck with an open back which is used to carry heavy loads.

40. Slag was next placed as backfill under an extension built on to an existing refractory warehouse in the fall of 1980. Rishel testified that, despite the prior problems, he still did not suspect that the slag was expansive, and his lack of suspicion was based on the assurance of the PTL report. At this point, he had not told anyone at GSC other than Dobinski about his knowledge that slag was expansive. It was not until September of 1981 that Rishel became aware of cracking problems on the floor of the refractory warehouse extension.

41. In the fall of 1979, Rishel first learned that GSC and UCC were considering the construction of an oxygen separation plant on the GSC plant site.

42. The steelmaking process requires a large quantity of oxygen and nitrogen gas. In 1979, GSC purchased these gases in liquid form and had them shipped to the GSC plant. The purpose of the oxygen separation plant was to provide GSC with oxygen and nitrogen in gaseous form at a price less than the price at which GSC previously purchased the gases. The oxygen separation plant distilled air into its components and piped the oxygen and nitrogen gases directly to the GSC plant.

43. There is no evidence to suggest that the oxygen separation plant was contemplated by GSC prior to the fall of 1979. Thus, GSC and UCC had not considered the oxygen separation plant alternative on March 27, 1979, when PTL issued its report concerning the suitability of GSC's slag for use as an engineered fill.

44. The plant site occupied an area of approximately one hundred fifty (150') feet by one hundred (100') feet on

the southeast corner of the GSC property near the bank of the Sampit River.

45. Rishel's first involvement with the oxygen separation plant ("plant") was to prepare the plant site for construction. Because the plant would sit close to the Sampit River, this preparation involved determining the proper support for the plant.

46. The plant contains several heavy structures which would require separate foundations. These foundations would sit three (3') or four (4') feet underground. The plant floor was a four (4") inch thick poured-concrete slab. The plant utilized underground electrical conduits and underground pipes.

47. The plant operated from a constant supply of four thousand one hundred sixty (4,160) volts of electricity. This power was supplied by GSC.

48. Because of the plant's structure and the sensitive nature of the plant's equipment, UCC could tolerate only minimal differential settlement of the underground support.

49. Rishel contacted Richard Nance of Law's Columbia office to seek help in determining what needed to be done to prepare the site for the construction of the plant.

50. Rishel's discussions with Law culminated on February 12, 1980, in an agreement between Law and GSC in which Law agreed to conduct a subsurface investigation of the plant site. The contract was signed by a Law representative and by Bill King of GSC. The agreement

includes by reference Law's proposal dated February 8, 1980. The proposal notes, "Pile foundations are anticipated for the proposed new facility with foundation plans incorporating the recommended pile size to be prepared by the Oxygen Plant supplier as part of their design package." However, the portion of the proposal captioned "Proposed Professional Services" notes:

> Although pile foundations have been employed for most facilities on the site, it is possible that the subject facility can be supported on shallow foundations with proper site preparation if such preparation is economically competitive with a pile foundation system.

51. Attached to the contract was a set of "General Conditions" which included the following:

> WARRANTY AND LIMITATION OF LIABILITY - The only warranty or guarantee made by Law Engineering Testing Company in connection with the services performed hereunder, is that we will use that degree of care and skill ordinarily exercised under similar conditions by reputable members of our profession practicing in the same or similar locality. No other warranty, express or implied, is made or intended by our proposal for consulting services or by our furnishing oral or written reports.
>
> Our liability for any damage on account of any error, omission or other professional negligence will be limited to a sum not to exceed $50,000.00 or our fee, whichever is greater. In the event the client does not wish to limit our professional liability to this sum, we agree to waive this limitation upon receiving client's written request,

and agreement by the client to pay additional consideration of 4% of our total fee or $200.00 whichever is greater.

These conditions were made part of the contract by reference on the first page of the contract, which reference was initialled by both parties.

52. After the execution of this contract, Law took five (5) soil borings and tested the materials as per the February 12, 1980 contract. These efforts culminated in a report authored by Richard Nance, a Law staff engineer. Stephen Blevins, Law's chief engineer at the time, reviewed the report, and it was issued on March 24, 1980.

53. The report recognized that the material in place at the site was a mixture of soil, slag and subsurface organics[6] and contained three alternative recommendations for site preparation. The first alternative was to place the plant on the existing soil/slag mixture after dynamic compaction of the material to eliminate voids and destroy organics. Dynamic compaction merely involves densifying in place material by repeatedly dropping a large, heavy object (headache ball) on top of the material. The second recommendation involved excavation of the soil/slag mixture and replacement with clean, compacted sand. The third recommendation called for placing the plant on driven piles.

54. After Law issued the report, Blevins had several conversations with Ross Johnson of UCC, who prepared

---

[6] GSC had previously used the site as a dumping ground for slag and other materials.

the civil engineering design of the plant. Johnson expressed to Blevins that UCC could tolerate only minimal differential settlement. As a result of these conversations, Blevins issued an amendment to Law's prior report dated August 29, 1980. In the amendment, Blevins explained that, because of UCC's intolerance of differential settlement, Law recommended removal of the soil/slag material in place and replacing it with clean compacted sand.

55. On September 5, 1980, Rishel called Blevins and inquired as to the possibility of replacing the soil/slag mixture with pure slag instead of clean sand. He was apparently motivated by potential cost savings. The testimony established that filling with slag rather than sand would result in a saving of one dollar and forty cents per cubic yard. Rishel informed Blevins that the slag contained lime and heavy metals and read the results of PTL's grain-size analysis. Blevins concluded that, with confirmation of the gradation, the slag should compact below the water level. Rishel also asked Blevins to provide a proposal for Law's overseeing the site preparation project. He did not tell Blevins about his knowledge that slag swelled, about the swimming pool incident, or about the previous problems with the track scales. At this point, Blevins had no knowledge that certain types of slag were expansive.

56. Blevins testified that Rishel did tell him at some point that slag had been successfully used as backfill at other plant locations.

57. The purpose of a grain-size analysis is to determine if a material will compact below the waterline. Silts will not compact below the waterline, so Blevins asked

for the grain-size analysis from Rishel because he was concerned about the compactability of the slag.

58. Robert McLeod of Law authored, and Blevins approved, a proposal for testing and inspection services of the site. The proposal notes:

> We understand from Mr. Rishel that the metal slag material, a by-product of the plants [sic] steel production, can be processed locally into a well graded artificial aggregate. With verification of this gradation, we anticipate the processed material will be suitable for use in the backfill required within the Oxygen Plant.

The proposal provided that Law would provide qualified engineers to observe the excavation and backfill and would periodically conduct field density tests to insure that the material was properly compacted. Attached to the proposal were general conditions identical to those contained in the February 12, 1980 contract between Law and GSC.

59. On September 11, 1980, Blevins spoke with Rishel again. Rishel had received the Law proposal and indicated that he had no questions concerning the proposal and that all needed points were addressed.

60. GSC accepted the proposal. The acceptance of the proposal is evidenced by a GSC purchase order dated October 13, 1980, which references the Law proposal. The purchase order was signed by Bill King as Director of Purchasing at GSC.

61. GSC then began the site preparation, and Fred Sharpe, a senior materials engineer with Law's

Charleston, South Carolina, office, undertook to perform the tasks outlined in the Law proposal.

62. On October 16, 1980, Sharpe visited the plant site and met with Rishel. Rishel informed Sharpe that GSC wanted to excavate the soil/slag mixture, remove the organics and large pieces of slag, and replace and compact the clean soil/slag mixture. Sharpe obtained samples of the pure slag from the IMS stockpile and of the soil/slag mixture which was in place at the site. During this visit, Rishel told Sharpe that GSC had previously used slag as backfill with favorable results. Rishel gave Sharpe a copy of the PTL report, and Sharpe told Blevins that he would conduct a grain-size analysis for control in the field.

63. Sharpe reviewed the PTL report within two days of its receipt and then contacted Blevins. Blevins told Sharpe to confirm the gradation of the slag. Sharpe indicated that a swell test had been conducted on the material, but neither he nor Blevins knew the reason for the swell test.

64. Rishel forwarded a drawing of the site and the specifications for site preparation to Sharpe. The specifications provided that the backfill material needed to be compacted to a minimum of ninety-five (95%) percent maximum density as obtained by Modified Proctor ASTM D-1557. Thus, GSC looked to Law to insure that the specifications were satisfied.

65. The site preparation proceeded as Rishel had described to Sharpe in their October 16, 1980 meeting. The soil/slag mixture was excavated, cleaned and replaced back in the site to bring the site within two (2') to two and

a half (2 1/2') feet of grade. UCC would bring the site up to grade.

66. On January 5, 1981, Law issued a report authored by Sharpe and approved by Blevins. The report briefly summarized the activities of Law and presented the test results for two (2) sieve analyses and two (2) modified proctor compaction tests. After this report was issued, Rishel asked Sharpe to include a paragraph concerning the design bearing pressure. Sharpe reissued the report on January 20, 1981, and added the following paragraph:

> Based on monitoring and approval of the excavation to suitable materials, and subsequent field density testing of structural fill, we recommend that foundations bearing in the fill material utilize a total maximum design bearing pressure of 3000 pounds per square foot.

Rishel asked for the modification of the January 5, 1980 report at the request of UCC.

67. Nothing in any of the discussions between GSC employees and Law employees and nothing in any of the agreements between GSC and Law indicates that GSC expected Law to determine the suitability of the slag backfill in any other respect beside compaction. In other words, the scope of Law's duty to GSC included a determination that the slag backfill could be and was appropriately compacted to support a load of three thousand (3,000) pounds per square foot, but did not include a determination that the slag was not expansive.

68. UCC commenced work on the plant in the beginning of January 1980 and brought the site up to grade

by filling with pure slag from the IMS stockpile. The plant was completed in September of 1980.

69. In September 1981, GSC became aware of cracks in the floor of the refractory warehouse, and it attempted to repair these cracks by filling them with grout. Approximately a year later, the cracks in the warehouse floor reopened. Rishel testified it was at this point, in the fall of 1982, that he first suspected that there might be a problem with the slag fill.

70. Problems developed at the oxygen separation plant shortly after its completion. Lou Neiman, a UCC employee, managed the plant beginning in 1981. He stated that he first noticed trouble at the plant in 1982. The expansive slag had caused stress on the electric cables and floor heaving had created tripping hazards. Initially, Neiman suspected that the foundations were sinking, but he subsequently learned that the floor of the plant was rising.

71. The plant continued in operation until 1985, but the problems worsened. Samuel Sullivan was UCC's regional production manager, and he recommended closing down the plant in June or July of 1985 for the following reasons: (1) the buss in the high voltage motor control system was stressed, (2) several concrete block walls were cracked and dangerous and rather than protecting employees in the event of an explosion would create a greater hazard, (3) the cracks in the floor posed a major safety hazard, (4) pipe loading existed in the booster oxygen compressor area, and (5) soil heave and floor movement made the integrity of the grounding system questionable.

72. The parties do not dispute that the problems at the plant necessitated its being shut down nor do they dispute that the problems were caused by the expansion of the slag underneath the structure. In fact, in November of 1982, Sharpe suggested that Law conduct tests to determine if the slag beneath the plant was expansive. Law performed an autoclave test on the slag which revealed that the slag was indeed expansive. The report which issued as a result of this test was dated December 8, 1982.

73. In 1968 or 1969, an article written by Carl B. Crawford and Kenneth N. Burn entitled "Building Damage from Expansive Steel Slag Backfill" was published. In 1979, both PTL and Law had this article available to them. PTL had a copy of the article in its Jacksonville office, and Law had the article in its Atlanta, Georgia, office.

74. Jack Roseman testified as PTL's corporate designee. He is currently the manager of the geotechnical department for PTL and works in PTL's Pittsburgh office. He began working for PTL in 1978. He testified that, in 1979, PTL was regionalized with divisions in the southeast, northeast, west, and southwest. Each region had a separate vice-president who reported to the president in Pittsburgh.

75. Roseman stated that he knew in 1979 that slag produced in open hearth or electric arc furnaces swelled. In fact, he included a statement in all of his geotechnical soil reports warning against the use of these types of slag as backfill.

76. Paul H. Gooding testified as Law's corporate designee. Gooding is currently employed by Law Associates,

a wholly-owned subsidiary of Law, and was employed by Law from 1968 to 1986. His employment at Law included a fourteen (14) year stint at Law's Birmingham, Alabama, office. He testified that the reports which issued while he was in Birmingham were not cleared through Law's Atlanta office.

77. Gooding also testified, however, that he and probably all other geotechnical engineers employed in Law's Birmingham office knew in the early 1970's that slag had expansive qualities and that it could cause problems if used as an engineered fill.

CONCLUSIONS OF LAW

1. This court has jurisdiction of this action pursuant to 28 U.S.C. § 1332.

2. As mentioned earlier, several objections were tendered at trial to the scope of certain experts' testimony. After considering the briefs of the parties and reviewing the depositions of the experts to whose testimony objections were tendered, the court concludes that the parties were on notice of all expert testimony with the exception of the testimony of plaintiff's expert Paul C. Rizzo in regard to the reasonableness of the conduct of Steve Rishel.

GSC did not indicate in its responses to the court's interrogatories propounded in Local Rule 7.05 that Rizzo's testimony would include opinions concerning the reasonableness of Rishel's conduct. Furthermore, the parties did not discuss the reasonableness of Rishel's conduct at Rizzo's deposition on November 25, 1986.

Therefore, the court sustains the objection to this testimony and excludes any testimony of Rizzo relating to the reasonableness of Rishel's conduct. All other objections which pertain to any expert testifying to matters which were not delineated in the responses to the court's interrogatories are overruled on the ground that the matters were sufficiently discussed at the various depositions to place the complaining party on notice of the testimony.

3. PTL argues in its brief that the court should exclude plaintiff's Exhibit 123. PTL objected to this exhibit at trial, and the court once again reserved a ruling until this time. Plaintiff's Exhibit 123 is a graph of the data points obtained during the swell test conducted on the slag by PTL. The graph was plotted by plaintiff's expert Scott Fletcher, and he testified that PTL violated the appropriate standard of care by not attaching a similar graph to the report it issued on March 27, 1979.

PTL objects on the ground that it had no notice that failure to attach a graph to the report would be an alleged ground of negligence on its part. It claims that neither the responses to the court's interrogatories nor Fletcher's deposition testimony indicated his intention to testify concerning PTL's negligence in not attaching the graph.

GSC contends, and Fletcher testified at his deposition, that PTL should have been alerted to the potential expansive nature of the slag based on his observation that about two-thirds (2/3) of the total swell occurred during the final twenty-four (24) hours of the test. The purpose of the graph, according to Fletcher, was to illustrate two facts: (1) the slag swelled disproportionately during the final

twenty-four (24) hours of the test, and (2) the slag had not stopped swelling at the conclusion of the test.

The court finds that Fletcher's deposition testimony concerning PTL's failure to recognize these two alleged facts is sufficiently related to the testimony concerning the graph to place PTL on notice that GSC would allege that the failure to recognize the swelling trend constituted negligence, as did the failure to graph the data points which would have allegedly revealed the trend. The objection of PTL to plaintiff's Exhibit 123 is hereby overruled.

Having resolved the evidentiary disputes which remained after the trial, the court now turns its attention to the liability of the defendants on the claims of GSC and the claims assigned to GSC by UCC. GSC sued both Law and PTL on theories of negligence, breach of implied warranty and breach of express warranty. UCC originally crossclaimed against Law and PTL on these same theories, and it is these claims which UCC assigned to GSC. The court will treat individually the different parties' claims against each defendant on each theory.

I. GSC v. PTL

A. *Negligence*

4. In South Carolina, in order to prevail on a negligence cause of action, the plaintiff must prove each of three elements. Specifically, the plaintiff must prove "(1) the existence of a duty on the part of the defendant to protect the plaintiff; (2) the failure of the defendant to discharge the duty; (3) injury to the plaintiff resulting from

the defendant's failure to perform." *S.C. State Ports Authority v. Booz-Allen & Hamilton, Inc.*, 289 S.C. 373, 346 S.E.2d 324 (1986).

5. In negligence cases in which there is an agreement between the parties, the agreement defines the scope of the parties' duties toward each other. In *Crawford v. Powers*, 419 F. Supp. 723, 729 (D.S.C. 1974), the court concluded:

> Where the only relation between the parties is contractual, liability must arise out of some positive duty which the law imposes because of the relationship or because of the negligent manner in which some act provided for in the contract is performed.

Thus, unless the law imposes some other positive duty on PTL, it had only a duty to perform the tests requested by GSC in its purchase order in a non-negligent manner.

6. In cases of professional negligence or malpractice in South Carolina, the professional may be held liable for damages resulting from his conduct if he acted differently than would a reasonably prudent professional in the same or similar circumstances. *Kemmerlin v. Wingate*, 274 S.C. 62, 65, 261 S.E.2d 50, 51 (1979). South Carolina applies a national standard to physicians, *King v. Williams*, 276 S.C. 478, 279 S.E.2d 618 (1981), and accountants, *Folkens v. Hunt*, 290 S.C. 194, 348 S.E.2d 839 (S.C. App. 1986).

7. The court previously found that PTL did not undertake a full-scale soil investigation to determine if the slag was suitable for use as a backfill. Rather, GSC directed PTL to conduct certain tests. The court now concludes that

PTL's conduct of the tests requisitioned by GSC comported with the degree of care and skill required of geotechnical engineers practicing in this country. The court finds that the degree of care and skill required in this case is defined by the ASTM standards, and not one expert testified that PTL did not comply with those standards.

8. The court further concludes that, even though the swell of the slag sample occurred substantially within the last quarter of the swell test, the size and percentage of swell was so slight that PTL need not have been alarmed to observe such swell. This conclusion is supported by the testimony that the margin for error of the swell test ranged between twelve and a half (12 1/2%) and twenty-five (25%) percent of the entire swell. Failure to include a graph or to include test results in the report issued to GSC did not constitute negligence. Such attachments are not required by ASTM D-1883. In fact, ASTM D-1883 requires only that the sample be measured at the beginning and the end of the swell test. Thus, failure to recognize or find significant the fact that the swell of this slag sample occurred substantially during the last twenty-four (24) hours of the test did not constitute negligence on the part of PTL. This conclusion is bolstered by the fact that the swell test, which was requested by GSC, was not intended to test for expansiveness *per se*. Rather the swell test is only part of the CBR test which is used to determine the strength of materials to be placed under roadways.

9. Because PTL was not instructed to conduct a full-scale soil investigation, the contract imposed no duty on PTL to conduct a literature search to determine if slag was

suitable for use as an engineered fill, and its failure to do so did not constitute negligence.

10. The court now turns to the issue of PTL's knowledge. In South Carolina, the knowledge of an officer or agent of a corporation obtained in the course of the officer's or agent's employment is imputed to the corporation. *S.C. Law Enforcement Div. v. The "Michael & Lance"*, 284 S.C. 368, 370, 327 S.E.2d 327, 328 (1985). In that case, the agent of a corporation engaged in the business of shrimping used the corporation's shrimp boat to smuggle marijuana. The corporation contested the forfeiture based on its lack of knowledge of its agent's drug smuggling activities. The court held that the knowledge of the agent was imputed to the corporation and, reversing the lower courts, ordered forfeiture of the boat.

The case at bar is a much more compelling case for imputing knowledge to the corporate defendants. However, the same principle applies to the plaintiff. Thus, while the court concludes that PTL had knowledge in 1979 that electric arc furnace slag swelled, it must also conclude that GSC had knowledge in 1977 that the steel slag it produced swelled, and had knowledge in 1979 that slag swelled.

Admittedly, a gap exists in the testimony concerning GSC's knowledge of the expansiveness of its own slag between the time Owen Gochenaur left GSC sometime prior to 1979 and the time when the slag was first used as fill on the GSC premises. However, it is significant that GSC's purchasing agent, Bill King, signed the purchasing agreement between GSC and R. B. Pond in 1977, and he was still present at GSC when it started using slag as fill.

Furthermore, Rishel definitely knew that slag swelled prior to suggesting that slag be used as backfill.

11. The court finds, finally, that PTL was negligent in including the statement in the conclusion section of its report to GSC that the slag "may be suitable for using as an engineered fill, provided that the material should be compacted to a minimum of 95% maximum density as obtained by Modified Proctor ASTM D-1557." The court bases this conclusion on PTL's knowledge of the expansive quality of electric arc slag, and on PTL's admission that it did not undertake a full-scale soil investigation.

The inclusion of the above-quoted opinion exceeded the scope of PTL's obligations. Once PTL undertook to render an opinion concerning the suitability of the slag as engineered fill, the law imposed a duty on it to exercise reasonable care in the formulation of that opinion. The testimony unequivocally establishes that the swell test was not an appropriate test for determining the swell, and PTL admits that it did not conduct a full-scale soil investigation. In light of these facts, the court finds that PTL was negligent in rendering an opinion based on the limited scope of its testing and investigation. Furthermore, since PTL undertook to give an opinion on the suitability of the slag as an engineered fill, it had a duty to inform GSC of its knowledge of the expansiveness of slag and/or to conduct a full-scale soil investigation which would have revealed that the slag swelled.

12. The conclusion reached with respect to PTL's negligence does not change depending on whether the court applies a national or local standard to PTL. The court concludes that with respect to certifying any mate-

rial as suitable for engineered fill, an engineer either in this locality or elsewhere should conduct a full-scale investigation to insure the accuracy of his certification. The fact that slag is not a frequently encountered material in this locality is not relevant to this court's determination that PTL was negligent in including in the report the conclusion concerning the suitability of slag.

13. A negligent actor is liable for the foreseeable consequences proximately caused by his negligence.

> The standard by which foreseeability is determined is that of looking to the natural and probable consequences of the act complained of. It is not necessary that the actor must have contemplated or could have anticipated the particular event which occurred. He may be liable for anything which appears to have been a natural and probable consequence of his negligence. "If the actor's conduct is a substantial factor in the harm to another, the fact that he neither foresaw nor should have foreseen the extent of the harm or the manner in which it occurred does not negative his liability."

Daniel v. Days Inn of America, Inc., 292 S.C. 291, 301, 356 S.E.2d 129, 134-35 (S.C. App. 1987) (citations omitted).

14. The court finds that PTL could foresee that GSC would place slag as engineered fill underneath structures, and that if the slag expanded, damage would result. Furthermore, though neither PTL nor GSC had contemplated in March of 1979 that the slag would be used underneath the refractory warehouse or the oxygen separation plant, such specific foresight is not a condition of liability. As noted earlier, it is not necessary that a negligent actor

foresee a particular event; rather, in order to impose liability, the negligent actor is held accountable for all natural and probable consequences of his negligent acts. Thus, the court finds that the damages suffered by GSC as a result of its use of slag as backfill were a foreseeable consequence of PTL's negligence.

15. In the State of South Carolina, however, contributory negligence of the plaintiff is a complete bar to recovery on the negligence claim. *South Carolina Insurance Co. v. James C. Greene and Co.*, 290 S.C. 171, 177, 348 S.E.2d 617, 620 (S.C. App. 1986), *Pilot Freight Carriers, Inc. v. Spivey*, 278 F. Supp. 520, 524 (D.S.C. 1967). In the former case, the South Carolina Court of Appeals defined contributory negligence:

> Contributory negligence is a lack of ordinary care on the part of a person injured by the negligence of another which combines and concurs with that other's negligence and contributes to the injury as a proximate cause without which injury would not have occurred.

South Carolina Ins. Co. v. James C. Green and Co., 290 S.C. 177, 348 S.E.2d at 620.

16. In 1979, GSC knew through Rishel that slag swelled. In 1977, GSC knew that the slag it produced swelled, and because of this knowledge it periodically had the slag chemically analyzed. In light of these facts, the court finds incredulous the fact that no one at GSC suspected slag swelling when the initial problems with the track scale developed. There was testimony that a reasonably prudent civil engineer with Rishel's background and knowledge should have suspected slag swelling when the

track scale problems developed and should have had the slag further tested to determine if it was causing the problems at the track scale, and the court agrees. For this reason, the court finds GSC contributorily negligent in failing to recognize the slag swelling problem with the track scale.

17. Again the applicability of a local or national standard is not relevant to the court's conclusion concerning GSC's negligence. The court finds from the testimony that a civil engineer practicing in this locality or elsewhere who had a material tested because he was concerned about its suitability for engineered fill, who receives a report saying the material may be suitable for engineered fill, who relies on that report to place the fill beneath a track scale, and who subsequently discovers structural problems with the scale, should suspect that the suspicious material placed as fill is causing the problems and should have the material tested further. The facts that this material was slag and that this material is not particularly common in this locality are not relevant to the court's conclusion that GSC was contributorily negligent.

18. Further testing of the slag would have revealed, as did the Law test in 1982, that the slag swelled. Since the problems with the track scale developed prior to the construction of the truck scale, the refractory warehouse and the oxygen plant, the damage resulting from GSC's placing slag underneath these structures could have been prevented had Rishel's conduct been consistent with that of a reasonably prudent engineer in the same or similar circumstances. Thus, the court concludes that the contributory negligence of GSC was a proximate cause of the

damage suffered by it as a result of expansive slag being placed underneath the truck scale, the refractory warehouse addition and the oxygen separation plant.

19. Based on the foregoing, the court finds that GSC is barred from recovering on its negligence claim for damage it suffered as a result of slag being placed as fill beneath the truck scale, the warehouse and the oxygen plant.

20. The court found earlier that the replacement of the slag at the track scale cite [sic] cost GSC three thousand two hundred thirty-three ($3,233.00) dollars. GSC is entitled to recover this amount from PTL on its negligence claim.

B. *Breach of implied warranty*

21. In South Carolina:

> It is settled law that where a person holds himself out as specially qualified to perform work of a particular character, there is an implied warranty that the work which he undertakes to do shall be of proper workmanship and reasonably fitted for its intended purpose.

Hutson v. Cummins Carolinas, Inc., 280 S.C. 552, 558, 314 S.E.2d 19, 23 (S.C. App. 1984).

22. The court finds that PTL held itself out as qualified to test soils. Furthermore, the conclusion with respect to slag combined with the representations that PTL was a qualified geotechnical testing laboratory amounted to a holding out that PTL was qualified to determine the suitability of materials as engineered fill. Therefore, PTL im-

pliedly warranted that the report it issued would be suitable for its intended purpose. Rishel's intent was to determine from the report if slag was suitable as engineered fill.

23. The report was in fact not suitable for its intended purpose because the conclusion reached therein was not based on sufficient information and was reached despite PTL's corporate knowledge that electric arc furnace slag is expansive. Thus, PTL breached the implied warranty of workmanlike performance.

24. In *Georgetown Towing Co. v. National Supply Co.*, 204 S.C. 445, 29 S.E.2d 765 (1944), the plaintiff had purchased a ninety-horsepower marine engine from the defendant, and the court found that the defendant impliedly warranted the proper installation of the engine. In the plaintiff's action based on the implied warranty, the court held:

> In a case of this kind, the [plaintiff] may recover, in addition to general damages, any special or consequential damages which he may have suffered by reason of breach of warranty, and which are the natural and direct or proximate result of the breach, and may reasonably be considered as within the contemplation of the parties at the time the contract was made.

Id., 29 S.E.2d at 767.

25. As the court previously noted, neither the refractory warehouse addition nor the oxygen separation plant were in the contemplation of either party at the time PTL issued its report in March 1979. Had PTL known that the

slag would be placed under a multi-million dollar structure, it may have conducted further tests, conducted literature searches and/or contacted other offices within the PTL system to further substantiate its conclusion concerning steel slag. The rule annunciated in *Georgetown Towing* is clear and unavoidable in this case. Because the warehouse addition and the oxygen separation plant were not in the contemplation of the parties at the time the implied warranty of workmanlike performance arose, PTL cannot be held liable for the damage which resulted from GSC's placing slag under these structures.

26. As previously noted, the communication between PTL and GSC was minimal. It does not appear from the testimony that GSC informed PTL of any particular structure under which it would place slag. More specifically, there is no evidence that PTL was informed that the slag would be placed under the track scale, so this item of damage is not recoverable based on breach of implied warranty.

C. *Breach of express warranty*

27. GSC contends that the statement contained in PTL's report that the slag may be suitable as an engineered fill constituted an express warranty that the slag was in fact suitable. In *Roundtree Villas Assoc., Inc. v. 4701 Kings Corp.*, 282 S.C. 415, 423, 321 S.E.2d 46, 51 (1984), then Chief Justice Littlejohn noted, "A warranty...is, in effect, a contract." South Carolina's version of the Uniform Commercial Code provides that express warranties are created by "[a]ny affirmation of fact or promise ... made by the seller to the buyer, whether directly or indirectly, which refers to the goods and becomes part of the basis of the

bargain creates an express warranty ...." S.C. CODE ANN. § 36-2-313 (Law Co-op. 1976).

28. The court realizes that the Uniform Commercial Code is not applicable to this case and looks to that statute only for direction. It appears that the statement contained in the report from PTL concerning the suitability of slag does not constitute a warranty. Rather, that statement is a mere representation. The statement did not form the basis of the agreement between PTL and GSC, and did not constitute any type of contract between the parties. For these reasons, the statement did not create an express warranty that the slag was suitable as engineered fill,[7] and GSC's claim based on express warranty must fail.

II. UCC v. PTL[8]

A. *Negligence*

29. As noted earlier, the first element of a negligence case in South Carolina is "the existence of a duty on the part of the defendant to protect the plaintiff." *S.C. State Ports Authority v. Booz-Allen & Hamilton, Inc.*, 289 S.C. 373, 346 S.E.2d 324 (1986).

---

[7] It would appear to the court that, even if the statement did create an express warranty, the plaintiff could still not recover because the damages were not in the contemplation of PTL when it issued its report. For further discussion refer to the section of this order addressing GSC's implied warranty claim against PTL.

[8] As mentioned earlier, these claims were assigned to and prosecuted by GSC. For simplicity's sake, the court will discuss these claims as if UCC were still a party to this suit.

30. In the *S.C. State Ports Authority* case, the existence of a duty was in issue. The court recognized that "[l]iability for negligence in preparing reports has been extended to parties other than those to the contract in certain circumstances." *Id.* at 376, 346 S.E.2d at 326. However, the court also recognized that "[t]he concept of duty in tort liability must not be extended beyond reasonable limits."

31. In that case, the plaintiffs included the S. C. State Ports Authority (SCSPA), the Charleston Branch Pilots Association, and two locals of the longshoremen's union. The defendant prepared a report at the request of the Georgia Ports Authority which unfavorably compared the Charleston (S. C.) port to the Savannah (Ga.) port. The court held that the defendant owed a duty to the SCSPA to exercise reasonable care in the issuance of the report, but that the relationship between the defendant and the other plaintiffs, who alleged lost profits as a result of the report, was too attenuated to support a duty of due care. The distinction between the different plaintiffs would seem to be the degree to which damage to each party could have been anticipated by the defendant.

32. In the case at bar, as noted earlier, the oxygen separation plant was not within any of the parties' contemplation when PTL issued its report. The court, therefore, finds that, while it was foreseeable that GSC would erect slag-supported structures, it was not foreseeable that UCC would rely on this report and suffer damage thereby. For this reason, the court concludes that PTL owed no duty to UCC and cannot be held liable for damage it may have suffered as a result of PTL's negligence.

B. *Breach of implied warranty*

33. Assuming *arguendo* that the implied warranty of workmanlike performance extended to UCC, it still cannot recover against PTL. As noted earlier, a party may be held liable for consequential damages flowing from a breach of warranty only if the particular consequences were in the contemplation of the parties at the time of contracting.

34. Neither PTL, GSC, nor UCC contemplated the construction of the oxygen separation plant in March 1979 when PTL issued the report. Thus, PTL cannot be held liable to UCC for damages it may have suffered as a result of the slag expansion at the oxygen plant. GSC is entitled to take nothing on the claims against PTL assigned to it by UCC.

III. GSC v. Law

A. *Negligence*

35. Law was in no way responsible, nor was any responsibility alleged against Law, for damage to GSC resulting from the scales or the refractory warehouse. Law's involvement in this case was solely related to the oxygen separation plant.

36. As noted earlier, the duty owing from one contracting party to another is primarily defined by the terms of the contract. *Crawford v. Powers*, 419 F. Supp. 723 (D.S.C. 1974). In the negligence case against Law, this rule of law is particularly relevant.

37. Law and GSC entered into two agreements. The first agreement provided that Law would perform an investigation into potential support designs for the oxygen plant. This agreement culminated, after intervention by UCC, in Law's recommending excavation of the existing fill and replacement with clean sand backfill. Subsequent to this recommendation, Rishel contacted Law to determine if slag backfill might be suitable. He informed Law that the fill had been successfully used on previous GSC projects, and Law was concerned only with whether the slag could be sufficiently compacted.

38. The second agreement related to the testing of the fill as it was being placed in the site. Rishel reviewed the proposal prior to its becoming an agreement and specifically noted that all needed points were addressed by the proposal. This proposal said absolutely nothing about Law's testing the slag to determine whether it was appropriate for use as backfill except to the extent that Law would determine if sufficient compaction was being achieved at the site.

39. Having reviewed the proposal and approved its scope, GSC cannot now contend that it was within Law's scope of duty to determine if the slag swelled. Admittedly, Law had knowledge of the expansive qualities of slag, but the assurances it received from Rishel concerning the successful prior use of slag could have been reasonably relied on by Law in not pursuing the issue of expansiveness.

40. Thus, the court concludes that law [sic] was not negligent in failing to conduct a literature search, failing

to test the slag for expansiveness, or failing to inform GSC of its knowledge that slag swelled.[9]

41. As found earlier, GSC was contributorily negligent in not suspecting slag problems and in not having the slag tested further once the problems developed with the track scale. With respect to Law, the court finds that GSC was contributorily negligent in not telling Law of the problems at the track scale of which it was aware. Additionally, GSC was contributorily negligent in telling Law that it had used slag as backfill without incident when, in fact, an incident had occurred at the track scale prior to the construction of the oxygen plant.

42. The court finds that GSC's contributory negligence was a proximate cause of the damage at the oxygen plant. Had Law been put on notice that the slag had caused problems in the past or that slag had been placed beneath the walls at the track scale and that problems had thereafter developed, it could have tested the slag for expansiveness, conducted a literature search and contacted other offices to determine the characteristics of slag. Such activity would have revealed that the slag swelled, and the disaster at the plant would have been avoided.

43. Furthermore, as noted earlier, Rishel's failure to suspect slag swelling at the track scale and subsequent

---

[9] Law contends that the limitation clause of the contract defines the relevant standard of care for GSC's negligence action. The court's finding with respect to Law's negligence is standard neutral. In other words, the court's conclusions do not vary depending on the application of a local or national standard of care.

failure to have the slag tested were also proximate causes of the damage at the oxygen plant.

44. Thus, because the court finds that Law was not negligent and that GSC was negligent, the negligence claim of GSC against Law must fail.

B. *Breach of Warranty*

45. The court will treat the two breach of warranty claims against Law together because both are inextricably related to the limitation of liability clause contained in both agreements between Law and GSC. This clause attempts to limit Law's liability in three ways. First, it defines the standard of care to which Law will be held. Second, it limits the amount of Law's liability to fifty thousand ($50,000) dollars. Third, it disclaims all other warranties.

46. GSC argues that the warranty was not made part of the agreement. In *South Carolina Electric & Gas Co. v. Combustion Engineering, Inc.*, 283 S.C. 182, 322 S.E.2d 453 (S.C. App. 1984), the court addressed the issue of the viability of a limitation of warranty in a transaction between two commercial actors. The court looked at three factors to determine whether the warranty was made part of the agreement: (1) the degree to which the parties negotiated for or against the inclusion of the limitation clause, (2) the relative bargaining strength of the parties, and (3) the location and clarity of the clause itself.

47. Applying these factors to the case at bar, the court concludes that the clause entitled "WARRANTY AND LIMITATION OF LIABILITY" did become a part of both

agreements between Law and GSC. The evidence does not indicate that the limitation was explicitly negotiated, but the clause itself provided an easy escape from limitation. GSC merely had to pay an additional four (4%) percent of the fee or two hundred ($200.00) dollars, whichever was greater, and the limitation of liability clause would not have been applicable in this case. Nor does the evidence indicate that either party was at a disadvantage at the bargaining table. Finally, the heading of the clause was printed in all capitals and thereby called attention to itself.

Furthermore, there is nothing ambiguous about the clause, and the fact that GSC did not call to Law's attention any ambiguity at the time the contract was formed leads the court to believe that its current allegations of ambiguity are an afterthought.

More pointedly, the court finds, as did the court in the *South Carolina Electric & Gas* case, that it strains credulity to believe that GSC, a commercial sophisticate, entered into an agreement without reading it and considering the implications of a clause limiting Law's liability. GSC had to realize the potential for large damages if the Law work proved faulty, but it apparently did not consider the limitation clause significant enough to pay the small fee required to avoid its effects.

48. Thus, the court finds that the only warranty existing between GSC and Law was defined by the relevant clause in the Law proposals, and will, therefore, look to this warranty to determine if Law has breached any warranty owing to GSC.

49. Law warranted that it would perform its tasks with that degree of skill and care exercised by engineers practicing in this locality. As mentioned earlier, the only manner in which the locality standard figures into this case at all is in the issue of knowledge of the expansiveness of slag. The court finds, however, that the testimony was clear that an engineer in this or any locality performs the tasks required by the agreement pursuant to which he acts.

50. The credible testimony indicated that the agreements between Law and GSC did not impose on Law the obligation of determining whether the slag was expansive. This finding is based on the language of the agreements which makes no mention of expansiveness, and on the fact that Rishel informed Law that he had previous success with the use of slag as backfill, indicating that he was no longer concerned with whether the slag was expansive.

51. For the above reasons, the court concludes that Law did not breach any warranty extending to GSC, and the court will direct entry of judgment for Law on this portion of GSC's claim.

IV. UCC v. Law

A. *Negligence*

52. In South Carolina:

> The relationship of agency need not depend upon express agreement and acceptance thereof. Generally, agency may be, and frequently is, implied or inferred from the words and conduct of

the parties and circumstances of a particular case.

Bankers Trust of South Carolina v. Bruce, 283 S.C. 408, 423, 323 S.E.2d 523, 532 (S.C. App. 1984) (citations omitted).

53. In the case at bar, UCC determined the specifications necessary for the site preparation and then designated GSC to prepare the site. Pursuant to this designation, GSC contracted with Law for engineering services on two occasions.

54. Each of the two contracts resulted in a report issued by Law, and UCC received each of these reports. After receiving the first report, UCC informed Law about the minimal tolerance of differential settlement. Law amended its report such that the sole site plan recommended by Law was the excavation of the existing fill and replacement with clean sand. After receiving the second report, UCC directed Rishel to contact Law to gain assurance that the fill in place at that point would support three thousand (3,000) pounds per square foot.

55. The court finds, based on these facts, that GSC acted on UCC's behalf when it entered into the agreements with Law, and, therefore, acted as the agent of UCC.[10]

---

[10] The court includes this finding with respect to agency in the Conclusions of Law for clarity's sake only. It is clear that the determination of the existence of an agency relationship is a question of fact. *Gathers v. Harris Teeter Supermarket, Inc.*, 282 S.C. 220, 226, 317 S.E.2d 748, 752 (S.C. App. 1984).

56. An agent binds a principal to the same extent as if the principal personally made the contract. *South Carolina Insurance Co. v. James C. Greene and Co.*, 290 S.C. 171, 183, 348 S.E.2d 617, 624 (S.C. App. 1986). Thus, the duty owed by Law to UCC is defined by the agreement and is identical to the duty owed to GSC. The court has previously determined that this duty did not include the determination of whether the slag was expansive. For this reason and the reasons outlined in the discussion of the negligence claim of GSC, the court finds that UCC's negligence claim must fail.

57. The court notes, as an additional reason why UCC cannot prevail on the negligence claim, that the contributory negligence of an agent can be imputed to the principal. *See South Carolina Ins. Co. v. James C. Greene and Co.*, 290 S.C. 171, 348 S.E.2d 617. Thus, GSC's contributory negligence bars the recovery of UCC on the negligence claim.

B. *Breach of Warranty*

58. Since GSC acted as UCC's agent, the warranty between Law and UCC is likewise defined by the warranty and limitation of liability clause of the Law proposals. As the court has previously found with respect to GSC, Law did not breach the warranty created by the agreement, and UCC's breach of warranty claim must also fail.

CONCLUSION

Based on the foregoing Findings of Fact and Conclusions of Law, it is

ORDERED, that the Clerk of Court enter judgment for Georgetown Steel Corporation against defendant Pittsburgh Testing Laboratories, Inc. in the amount of THREE THOUSAND TWO HUNDRED THIRTY-THREE AND NO/100THS ($3,233.00) DOLLARS. It is

ORDERED FURTHER, that the Clerk of Court enter judgment in favor of the defendant Law Engineering Testing Company, Inc. on all claims of Georgetown Steel Corporation.

AND IT IS SO ORDERED.

/s/ FALCON B. HAWKINS
FALCON B. HAWKINS
United States District Judge

Charleston, S. C.

July 3rd, 1988.

Appendix C

AMENDED JUDGMENT IN A CIVIL CASE

UNITED STATES DISTRICT COURT

SOUTH CAROLINA

DOCKET NO. C/A2:85-0440-1

GEORGETOWN STEEL CORPORATION

v.

UNION CARBIDE CORPORATION,
LAW ENGINEERING TESTING COMPANY AND
PITTSBURGH TESTING LABORATORY, INC.

Judge Falcon A. Hawkins

( ) **Jury Verdict.** This action came before the Court and a jury with the judicial officer named above presiding. The issues have been tried and the jury has rendered its verdict.

(X) **Decision by Court.** This action came to trial or before the Court with the judge named above presiding. The issues have been tried and a decision has been rendered.

IT IS ORDERED AND ADJUDGED

that the plaintiff, Georgetown Steel Corporation, recover of the defendant, Pittsburgh Testing Laboratories, Inc., the sum of Three Thousand Two Hundred Thirty-Three and NO/100ths ($3,233.00) Dollars with interest at the rate of 7.54% percent as provided by law, and his costs of action.

IT IS FURTHER ORDERED AND ADJUDGED that judgment be entered in favor of the defendant Law Engineering Testing Company, Inc., on all claims of plaintiff, Georgetown Steel Corporation.

Ann A. Birch
Clerk

/s/ Margaret King
Deputy Clerk

Date: 7-15-88

Appendix D

IN THE UNITED STATES DISTRICT COURT
FOR THE DISTRICT OF SOUTH CAROLINA
CHARLESTON DIVISION

GEORGETOWN STEEL CORPORATION,	)	CIVIL ACTION #2:85-0440-1
Plaintiff,	)	
vs.	)	ORDER
UNION CARBIDE CORPORATION, LAW ENGINEERING TESTING COMPANY, and PITTSBURGH TESTING LABORATORY, INC.,	)	
Defendants.	)	

On July 5, 1988, the court issued Findings of Facts and Conclusions of Law directing the clerk of court to enter judgment for the plaintiff against defendant Pittsburgh Testing Laboratory, Inc. in the amount of three thousand two hundred thirty-three and no/100ths ($3,233.00) dollars and for the defendant Law Engineering Testing Company on all of plaintiff's claims.

Defendant Law Engineering Testing Co. subsequently moved to amend the judgment to include an award of its costs of action. The court has been notified by the attorney's for the plaintiff that the plaintiff does not oppose the motion. It is, therefore,

ORDERED, that the motion of Law Engineering Testing Co. to amend the judgment be, and the same is hereby, granted, and the clerk of court is hereby directed to amend the judgment to reflect that Law Engineering Testing Co. shall recover its costs of action from the plaintiff.

AND IT IS SO ORDERED.

/s/ Falcon B. Hawkins
Falcon B. Hawkins
United States District Judge

Charleston, S. C.

November 28, 1988

Appendix E

AMENDED JUDGMENT IN A CIVIL CASE

UNITED STATES DISTRICT COURT

SOUTH CAROLINA

DOCKET NO. C/A2:85-0440-1

GEORGETOWN STEEL CORPORATION

v.

LAW ENGINEERING TESTING COMPANY AND PITTSBURGH TESTING LABORATORY, INC.

Judge Falcon B. Hawkins

( ) **Jury Verdict.** This action came before the Court and a jury with the judicial officer named above presiding. The issues have been tried and the jury has rendered its verdict.

(X) **Decision by Court.** This action came to trial or before the Court with the judge named above presiding. The issues have been tried and a decision has been rendered.

IT IS ORDERED AND ADJUDGED

that the plaintiff, Georgetown Steel Corporation, recover of the defendant, Pittsburgh Testing Laboratories, Inc., the sum of Three Thousand Two Hundred Thirty-Three and no/100 ($3,233.00) Dollars with interest at the rate of 7.54 percent as provided by law, and its costs of action.

FURTHER ORDERED that judgment is entered in favor of defendant Law Engineering Testing Company, Inc., on all claims of plaintiff Georgetown Steel Corporation and that defendant Law Engineering Testing recover from plaintiff Georgetown Steel its costs of action.

AMENDED JUDGMENT

Ann A. Birch
Clerk

/s/ Judith M. McDowell
Judith M. McDowell
Deputy Clerk

Date: November 29, 1988

Appendix F

UNITED STATES COURT OF APPEALS
FOR THE FOURTH CIRCUIT

No. 88-2884

GEORGETOWN STEEL CORPORATION

Plaintiff - Appellant

v.

UNION CARBIDE CORPORATION;

Defendant - Appellant

LAW ENGINEERING TESTING COMPANY;
PITTSBURGH TESTING LABORATORY, INC.

Defendants - Appellees

No. 88-2979

GEORGETOWN STEEL CORPORATION

Plaintiff - Appellant

v.

UNION CARBIDE CORPORATION;

Defendant - Appellant

LAW ENGINEERING TESTING COMPANY;
PITTSBURGH TESTING LABORATORY, INC.

Defendants - Appellees

On Petition for Rehearing with Suggestion for Rehearing In Banc

The appellant's petition for rehearing and suggestion for rehearing in banc were submitted to this Court. As no member of this Court or the panel requested a poll on the suggestion for rehearing in banc, and

As the panel considered the petition for rehearing and is of the opinion that it should be denied,

IT IS ORDERED that the petition for rehearing and suggestion for rehearing in banc are denied.

Entered at the direction of Judge Hall with the concurrence of Judge Widener and Judge Anderson, United States District Judge for the District of South Carolina, sitting by designation.

For the Court,

CLERK